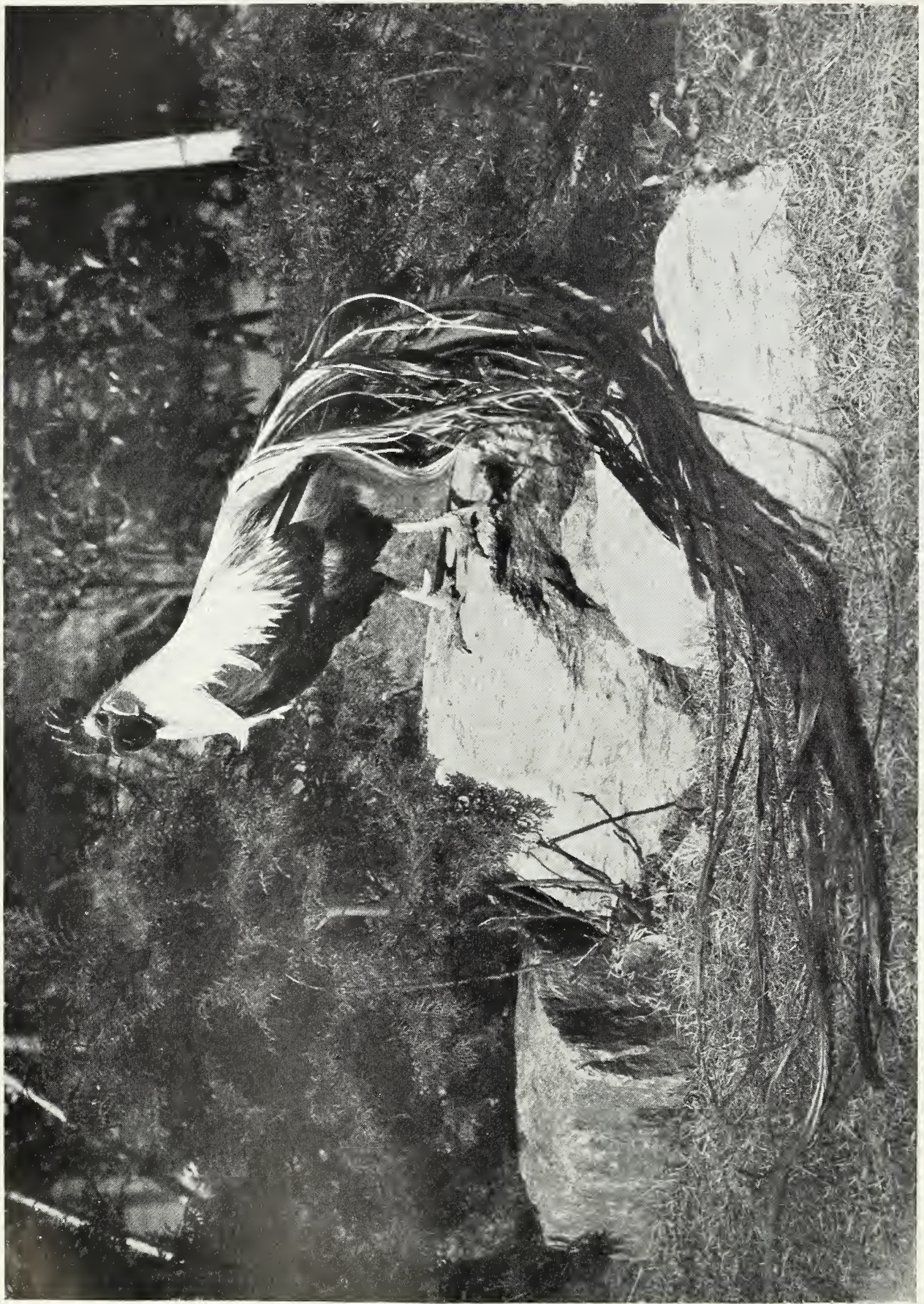


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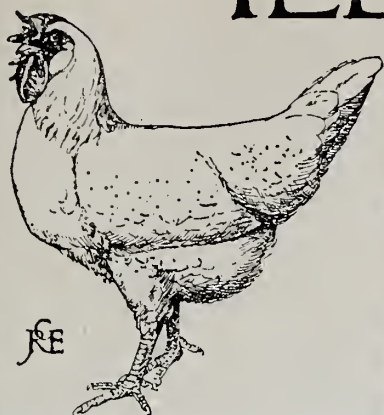
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JAPANESE LONG-TAILED YOKOHAMA COCK, SILVER-GREY VARIETY.

By courtesy of H. Ishizaki Esq. of Tokyo, Japan.

THE ILLUSTRATED POULTRY RECORD



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The Editor will be glad to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered by experts in the several departments. The desire is to help those who are in difficulty regarding the management of their poultry, and accordingly no charge for answering such queries is made.

The Annual Subscription to the ILLUSTRATED POULTRY RECORD at home and abroad is 8s., including postage, except to Canada, in which case it is 7s. Cheques and P.O.O.'s should be made payable to Brown, Dobson, and Co., Limited.

The ILLUSTRATED POULTRY RECORD is published on the first of every month. Should readers experience any difficulty in securing their copies promptly they are requested to communicate immediately with the Editor. The latest date for receiving advertisements is the 20th of the month preceding date of issue.

The utmost care is exercised to exclude all advertisements of a doubtful character. If any reader has substantial grounds for complaint against an advertiser he is requested to communicate at once with the Editor.

Death of Mr. John Harwood.

Readers will learn with regret of the death, on August 30, of Mr. John Harwood, of Tiverton, Devon. For years Mr. Harwood was one of the leading fanciers in the West of England. Although his knowledge of most breeds of poultry was such as enabled him to judge very successfully at many an all-round show, he was strongest in Minorcas; in fact, it is as a Minorca specialist that his name will be best remembered. He had been a breeder and an exhibitor of poultry for well-nigh forty years, and his first attempt in the show-pen was during 1871, at which time he had a very good team, including Brahmas, Cochins, La Flèche, and Minorcas. His popularity as a judge was such that when he was announced to "sort them out" one was generally assured of a grand display of his favourites; and when he made his début in the judicial capacity, which was in his native town of Tiverton in 1885, he drew a very strong entry of Minorcas. On more than one occasion, too, he had record displays, notably at Liverpool in 1891, when he had to judge eighty-four pullets in one class, and again at the Crystal Palace in 1899, when the entry of Minorca cockerels was fifty-seven. As an exhibitor he was known in all parts of the country, and besides winning numerous first prizes, his birds on two occasions carried off the challenge cup at the Minorca Club Shows. It can truly be said that no fancier did more for the good of the Minorca Club and breed than did Mr. John Harwood; and when he took up, in 1893, the dual office of hon. secretary and treasurer of the club it was a turning-point in its career, since it soon gained the reputation of being, both numerically and financially, the strongest club of its kind.

Bright Prospects.

From every part of the world reports reach us that the poultry industry is steadily increasing. Consumption of, and, consequently, demand for, this class of food is rapidly advancing. Although as yet production has not increased to an equal extent, as indicated by better all-round prices, it can scarcely be doubted but that farmers in all countries will rise to the occasion and reap the harvest of profit which awaits them. But a necessary factor is that those who undertake the task of meeting market requirements in the direction indicated shall be able to obtain stock embodying the qualities which are wanted—pure-bred stock, that is. Farmers have not the time or the opportunity for developing the egg and meat properties, and must look to others for birds with high properties. It is here that the specialist comes in, and the prospects for this branch of poultry-breeding are very bright indeed, provided that production is on the right lines, and that the class of stock evolved is conducive to the success, in a practical sense, of purchasers. Great as the extension of poultry-keeping has been during the last few years, the signs are that it will be much greater in the near future if breeders rise to the occasion and combine business acumen with skill in the handling of their stocks.

Bacteria and Moulds in Eggs.

Within recent years considerable investigations have been made by scientists, chiefly foreign, as to the changes which take place in eggs, from which our knowledge of the subject is much greater than formerly. It has been shown that some eggs after keeping for a prolonged period become rotten, whilst others develop vegetable growths taking the form of moulds, and a smaller number do neither of these, but simply become what is known as "stale." The first of these is due to the action of bacteria, the second to infection from other sources. A German investigator, Herr Zorkendorfer, in one experiment, examined 80 preserved eggs, in which 58 were rotten, of which 38 were "black rots" and 20 "red rots," the result of bacteria; 5 were infected with moulds, and 17 were merely stale. Further, it is evident that the change was due, in the former, to bacteria within the egg gaining access before the shell was formed, and, therefore, must have been present in the ovaries and oviducts of the hens. This is an important question for breeders as such. Given the presence within an egg of a number of these minute forms of life, sufficient to end in absolute decay of the egg contents if that be kept long enough, the problem is what effect

will these creatures have upon the growing embryo if the egg is used for hatching? Probably the conditions which favour the development of the chicken may equally help the bacteria. It is suggested that we may find in this direction an explanation of death in shell, mortality in chickens, and other difficulties which present themselves to the intensive poultry-keeper. We commend this field of inquiry to investigators.

Neighbourly Amenities.

The case tried at Watford recently, in which a Radlett resident summoned his next-door neighbour for "keeping fowls in such a way as to be an intolerable nuisance," was, fortunately for the disputants, compromised without the magistrate having to decide the rights and wrongs of either party. The evidence showed that the defendant kept, in addition to cocks, about eighty hens upon rather less than three-quarters of an acre, and some of the pens were within thirty feet of the plaintiff's bedroom in the adjoining house. As a consequence it was stated that the latter dwelling had been rendered almost uninhabitable by reason of noise and smell, though on the last-named point there was no confirmation, and the local sanitary officer was prepared to speak as to the clean condition of the runs. Therefore the entire question was one of disturbance. Complaints are often made by ultra-nervous folk, who seem to think that the whole world is made to suit them, and that they have the right to compel everyone to yield to their neurotic temperament. With these we have little sympathy, yet they have certain rights which should not be ignored. In this connection there are three principles which may be accepted without question—namely, that every resident has a right to be protected against a nuisance or disturbance caused by neighbours; that the crowing of cocks at all and unreasonable hours is objectionable in the extreme, and may be a serious danger to health; and that anyone has a right to keep poultry, or other stock, so long as these are not where they will be a source of annoyance to others than the owner. The application on both sides must be reasonable, but these rights are compatible. It is our desire and interest to promote the keeping of poultry any and everywhere that can be done fairly to all concerned, but we must confess that a crowing cock "heralding the morn" within thirty feet of our bedroom window on a summer morning would lead us to regard it with decided and indignant aversion. A hundred feet would be quite near enough, but at such distance complaint would generally be unjustifiable.

The Rearer's Profit.

It is a notable fact that no favourable influence or combination of fortuitous circumstances ever appear materially to benefit the chicken-rearer. This fact of the rearer's domination by others has been accentuated this season, in which we have seen some decrease in the competition of the import trade, with the coincident influence of a very variable rearing season at home and a generally good demand. It might quite reasonably be expected that under such conditions the rearer would experience some compensation in the form of enhanced values, which should serve to counterbalance

the disappointment of the depletion of the early output. But owing to the general conditions of trading in this department of production, such benefits do not, as a rule, extend to the rearer, but appear to be distributed in the intricate network of agents, dealers, higgles, fatteners, and salesmen, through one or more of whose hands the produce commonly passes before it reaches the retailer, and then the consumer — the average difference between the

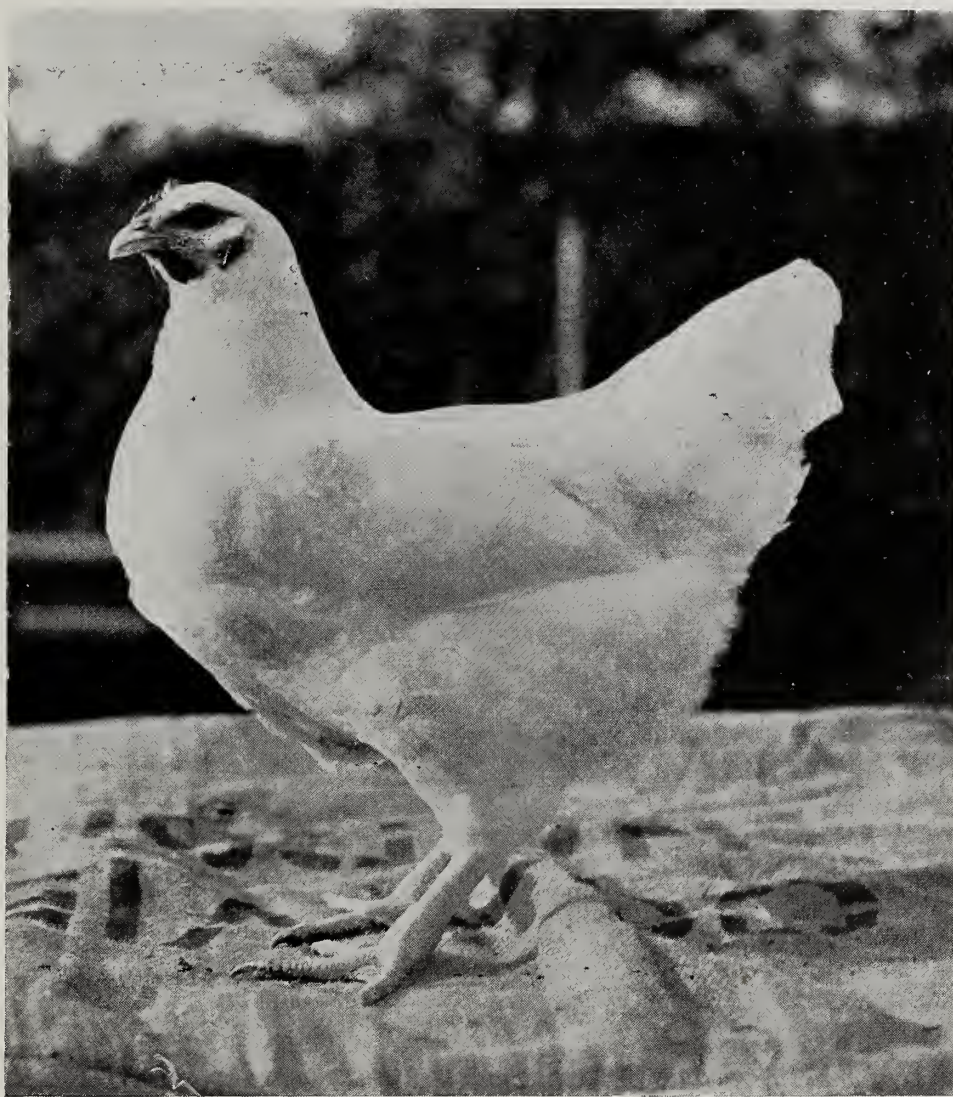
first and last price being considerable. If there is one class more than another that requires organisation and co-operation it is that large section of small farmers, holders, and cottagers from whom the chicken supply is mostly drawn.

Fouling the Nest.

The bogeys raised from time to time by medical men are, fortunately, little more than

gruesome masks which terrify the neurotic but are mere shells. If we believed everything stated in certain journals we are all certain to die in a very short time. The wonder is that any of us remain alive. Everything we eat, or wear, or see, the air we breathe, the houses we live in, the roads we walk on, contain lurking enemies ready to prey upon us. Some of these fearful goblins have a measure of reality. Perhaps good is done by alarming men into carefulness. But in actual effects they are dreams, idle dreams, "dread visions of the night." One of the latest is due to Dr. Corner, who combines the fancier and

the medico. Talking to a *Westminster Gazette* interviewer, he propounded the alarming theory that the increase of tuberculosis in milk cows is due to the presence of poultry running on the same land. Had this come from some fox-hunting doctor, who wished to protect his beloved sport, and his own pocket, by raising a scare against poultry-keeping, we might not have been altogether surprised. In that case no one would have been any the worse or have paid any



A WHITE ORPINGTON PULLET.
Bred by and the property of Mr. W. Richardson.

[Copyright.]

attention to it. But, knowing and respecting Dr. Corner, recognising the interest he has taken in poultry, his outburst has almost made us speechless. Intensification of method with all animals and plants makes these more liable to disease. To attribute the blame for increase of tuberculosis among cattle to fowls is to ignore facts. The investigations made by the British Dairy Farmers' Association a

few years ago showed that where milk cows were kept in sheds the percentage affected was very high, whereas those kept in the open were practically free. Hens could be, and probably were, run with the latter, whereas the former had no opportunity of even breathing the same air as the poultry.

Size of Laying Hens.

In the Report on the South Australian Poultry Conference we find that Mr. A. E. Kinnear, in his paper on "The Effect of Laying Competitions," said :

Another thing that the competitions have proved beyond doubt is that medium-sized hens laying medium-sized eggs are always at the top. There is no getting away from this fact, as over and over again the winning birds have been found to weigh about 4½lb., and the eggs from about 24oz. or 25oz. to the dozen. If you have a large amount of meat on the birds you cannot have a large amount of eggs, because the undue development of one attribute is invariably at the expense of the remainder. Therefore, we have found that skinny hens are prodigious layers. Their digestive apparatus converts their food into eggs and not into meat. Conversely, the heavy breeds' digestive apparatus converts the bulk of the food into meat, and there is less surplus from which to make eggs—because it is the food that makes the eggs. For this reason it is only to be expected that the natural layers—the light breeds—should win laying competitions, as they almost invariably do.

It may be pointed out that the English Laying Competitions have not yielded the same results, and that the majority of the victors have been of the heavier breeds. But it must be borne in mind that the Australian contests have uniformly extended over twelve months, and in some cases for double that period, whereas with one exception all the competitions in this country have been restricted to the winter months, either sixteen weeks or six months. The question is one of considerable importance, and it would be interesting to learn what were the weights of the successful pens in comparison with the general average of the respective breeds. The quotation given above is, we believe, supported by experience in all countries, and is certainly true in milk cows, but we want actual data in proof. We suggest, therefore, that attention should be given to the point in the competitions, which will commence this month.

The Club Show Season.

We will shortly be in the midst of the club show season, and one may pertinently raise the question whether these events quite fulfil the purpose for which they were originally intended. One suspects that in many cases the main idea of the clubs is to make profit from

their shows, and it would be by no means difficult to name instances where the proportion of entry fee to prize-money is higher at club shows than at such events as the Dairy and Crystal Palace. This is no doubt due to the fact that many of the clubs have but a small credit balance and cannot afford to act generously by their patrons. But this does not alter the fact that at too many club shows the good things provided are obviously for the few lucky ones who own the best birds, whilst the bulk of the entries must come from the less fortunate classes. One may reasonably argue that a club show should be a grand festival in which all the members of a club may participate with some hope of success. Some of the younger Wyandotte clubs have most nearly approached this ideal, for besides open classes for the leading breeders they provide limit classes for those who have never won a first prize at the classic shows, and novice classes for those who have never won a first prize at any show, in addition to limit value or selling classes.

The Laying Competitions.

Entries for the two Four Months' Laying Competitions which are being held, the one under the management of Mr. George Nicholls at Grimley and the other under the management of Mr. William Barron, of Battle, near Preston, have now been closed. For the Southern Competition 78 pens have been entered. Of these no less than 38 comprise White Wyandottes, the remaining pens being made up as follows: Buff Orpingtons, 15; White Leghorns, 7; Buff Plymouth Rocks, 6; Rhode Island Reds, 3; White Orpingtons, 3; Speckled Sussex, 2; Silver Wyandottes, 1; Anconas, 1; Black Leghorns, 1; and White La Bresse, 1. Thirty-four pens have been entered for the Northern Competition, made up as follows: White Wyandottes, 15; White Leghorns, 5; Buff Orpingtons, 3; Buff Rocks, 3; Black Leghorns, 3; Rhode Island Reds, 2; Silver Wyandottes, 1; White Orpingtons, 1; and Anconas, 1.

The Illustrated Poultry Record will again be at its old place in the South Gallery at the forthcoming Dairy Show, and we shall be pleased to see any of our readers who can find time to visit us. There will be a large room at the back of our stand, where writing materials will be supplied, and we hope our friends will make use of it. We shall be happy to have letters or telegrams addressed to the stand; in fact, we hope that readers of *The Illustrated Poultry Record* will remember that we are anxious to assist them in any way, and that our services are at their disposal during the forthcoming Show.

THE £ S. D. OF FANCY POULTRY-KEEPING.

By W. M. ELKINGTON.

THE influence of the Fancy is greater to-day than it has ever been, and not merely on account of the valuable work that has been done by exhibition breeders in creating and maintaining standard breeds, but also because of its financial strength. The Fancy is the medium for the circulation of a vast sum of money, from which newspapers, food and appliance manufacturers, and many trades draw a large share of their means of support. Indeed, the resources of the Fancy could only be realised if, for some unimaginable reason, the exhibition of poultry was suddenly stopped and Fancy values ceased to exist. Breeders would not suffer alone. An army of joiners, painters, fitters, printers, basket-makers, millers, bakers, wire-workers, poultrymen, show attendants, and unskilled labourers would be thrown out of employment, prosperous businesses would become shaky, newspapers would lose half their readers and advertisers, and the railway companies would in all probability be forced to curtail their staff and pay a reduced dividend. Thus one might suggest that the financial influence of the Fancy is far greater than its mere technical influence upon the keeping of poultry. The Fancy may not be absolutely necessary to maintain the reputation of English breeders at the present day; but its financial backing is essential to the welfare of the industry and the dependent industries.

The *personnel* of the Fancy comprises a section who are content to regard it as a hobby and others who make it a business. The former, it may be said, find the money and the latter provide the material, for the Fancy depends largely upon the principle of buying and selling, and even to the pure and simple hobbyists the trading element is by no means foreign. Some of these people, who, having other means of livelihood, are pleased to describe themselves as hobbyists or amateurs, actually make handsome profits, and it is, indeed, the aim of most amateurs to make their hobby self-supporting. That some fail in this respect merely serves to prove that where competition is so keen some special skill and qualifications are necessary to attain success. Those who assume from reports of high prices realised that the business is necessarily profitable should consult the balance-sheets of some who are generally regarded as successful fanciers in order to obtain an idea of the heavy expenses.

In certain circumstances the maintenance of a fancier's establishment may rival in cost the upkeep of a small racing stable, and only in isolated instances do the birds pay their way. Take, for instance, the case of a fancier who, being blessed with means and an ambition to own the best stock in his particular breed, spends money freely upon his hobby. His wages list will probably run to £5 a week, made up of £2 for the head poultryman, 30s. for an assistant, and 15s. each for two youths, whilst the food bill all the year round may average £3 or £4 a week, for on a Fancy establishment economy ranks after efficiency, and a great many birds are necessarily kept which, from the commercial standpoint, are not worth maintenance. Then, again, a large flock of chickens have to be bred every season, and comparatively few of these are killed off at an early age when they pay for production purely for table purposes. But these by no means comprise the heaviest charges on a fancier's establishment. Housing is an especially costly item, because separate accommodation must be provided for valuable specimens, and it is not an uncommon occurrence to find fifty or sixty cockerel-houses, each costing a guinea, and each containing one or two winners, actual or in the making. Elaborate ranges of small houses with shaded runs for the temporary accommodation of show birds, with commodious scratching-sheds for the breeding stock, may represent an outlay of several hundred pounds, whilst a commodious exhibition room, warmed and ventilated, fitted with show-pens and conveniences for washing, drying, &c., together with an incubator house and food store with many bins (for the average poultry-keeper has little idea of the modern fancier's enterprise in regard to variety of food) are mere details in the list. None of these items are superfluous. They all make for convenience and efficiency, and it is largely through their help, together with the skill of the poultrymen, that fanciers are able to stage their birds in such magnificent condition.

So much for labour, food, and plant. But what about the stock? What is the fair value of a stud belonging to a successful exhibitor-breeder? Recollect that these represent not merely hard cash, but years of highly skilled work. A man may write out a cheque for £1,000 in order to acquire a collection of show specimens, and at the end of a year the orig-

inal stock and their progeny together might fail to attract a similar bid. But when, by the skill and patience of an expert poultryman, a strain has been built up that will produce champions every season—then, in one of the popular breeds of Orpingtons, Wyandottes, Rocks, or Leghorns, such a stud would be difficult to value, and in all probability the owner would not entertain any offer for it. A well-known professional breeder once told me that an individual had offered him £1,000 cash for his entire stock, probably less than a thousand birds, and he appeared to be very much amused at the idea of selling at such a price, which, considering that he is known to make a handsome income from his fowls, would appear paltry.

This turns our attention to the money-making side of the Fancy, for though it may be to some a costly hobby, to others it may become a source of considerable revenue. The stories told of riches made in the Fancy are not all fiction. Many, I have good reason to believe, understate the facts, for fanciers, and especially successful ones, are a canny class, and do not make a show of their bank books. One man, who twelve years ago was a tradesman in a small way of business, is now the owner of his farm and home, together with a substantial sum of money in the bank, as the result of successful operations with a certain popular variety, and another man in the same county, who started poultry-keeping purely as a hobby, informed me that he paid income tax on £500 last year, made entirely out of one breed. Assessors of income tax in various parts of the country could no doubt bring to light many instances of prosperity; but, as I have said, fanciers are not in the habit of advertising the state of their bank balances, and estimates of their welfare must be mainly conjectural.

And how is the money made? Contrary to popular belief, quite an infinitesimal proportion comes from the actual exhibiting, for the genuine breeder-exhibitor looks upon the shows as his best advertising mediums, and the moral effect of his wins is of more consequence than the actual prizes. There are, however, professional exhibitors (frequently alluded to as "teamsters" or "pot-hunters" by less fortunate competitors) who get together large collections of various breeds, mainly by purchase, and go round the shows for the sake of the money rewards. They reap their richest harvest in the summer, when competition is usually less keen and the prizes at some of the agricultural shows, by contrast, are more substantial, and there can be no doubt that their earnings amount to a substantial weekly sum

in the height of the season. I have known a man take away upwards of £20 in cash from a county agricultural show, and two years ago a well-known English fancier, competing at the Royal Dublin Society's Winter Show, won twenty first prizes, each of the value of £1, and took away altogether something like £30, from which a deduction of about £8 would cover the cost of entry fees, carriage, and attendants' expenses. But to the ordinary fancier exhibiting is not profitable work, and comparatively few can show a balance on their show accounts at the end of the season. Provided one can secure a sequence of first prizes, let alone cash specials, one might be able to show a dividend of something like 300 per cent., and a series of second prizes would return a profit of 100 per cent.; but third prizes barely cover expenses, and "reserves" and commended cards mean so much out of pocket. These estimates are based solely upon the bare cost of entry fees and carriage, and when, as in many cases, the owner or his poultryman goes to the show in charge of the exhibits, the expenses are made considerably heavier and the profits are consequently reduced.

But, as I have said, the successful exhibitor-breeder regards the shows as his best advertising medium, and, as a rule, he exhibits not so much for the sake of the immediate returns, as for the purpose of letting the public see the quality of his stock, and of keeping his name prominent in the lists of exhibitors. He relies for his main source of income upon his sales of stock and eggs, and the value of these is naturally enhanced by his success in the show-pen, and the demand for his produce stimulated thereby. The beginner who takes to fancy poultry-keeping for a livelihood experiences his chief difficulty in getting himself and his stock known to the public. He may possess some of the best birds in the country, but unless he can show a long string of prizes to their credit buyers will show no eagerness to secure his wares. What is more, he must show something in the nature of a sustained effort. Any man may win prizes in his first season with purchased birds; but when he is in a position to demonstrate that he can and does breed winners, the public will be more inclined to regard him as a person whose produce should be worth buying.

Unfortunately, it is quite impossible to estimate the amount of money that changes hands every season over eggs for hatching from exhibition stock; but, considering that many breeders sell upwards of £200 worth of eggs in a year, and there are some hundreds of breeders who engage in this

trade, the actual total would doubtless startle the uninitiated. It is from this sale of eggs, which realise anything from one or two guineas to five shillings a dozen in the height of the season, that successful breeders secure a considerable share of their profits, but the annual crop of chickens brings an even richer harvest. Breeders who are in the happy position of being able to sell readily and at a good price belong to a small and select coterie, and, as a rule, the average fancier finds it an easy matter to sell a good bird, but extremely difficult to dispose of the in-

different specimens. It is, of course, entirely a question of supply and demand. Birds that can win are always wanted, and some of the prices realised in recent years point to the possibilities awaiting clever breeders and good business men. The late Captain Heaton's record purchase of a modern Game-fowl for £200 appears to be an isolated example; but four or five years ago a fancier paid £165 for a Partridge Wyandotte cockerel, and every season produces one or more sensational sales at figures ranging from £50 to £100.

POULTRY THROUGH THE MICROSCOPE.

III. — THE MICROSCOPICAL STRUCTURE OF FEATHERS.

WRITTEN AND ILLUSTRATED BY JAMES SCOTT.

THE feathers of a bird are as much a development of the skin as are the hairs of mammalian creatures; and, scientifically considered, there is not so much difference as there appears to be between the two kinds of appendages.

If we pluck an ordinary feather from a fowl we find that it is composed of the quill, from each side of the upper part of which project firm yet flexible fibres, while a downy fluff exists nearer the base. Upon handling a feather in a certain way it opens, or separates peculiarly, as though a piece had been cut from it; yet by smoothing the same parts between the fingers the gash can soon be concealed—or, rather, removed—by reunion, as though the feather was a curious form of textile fabric.

Water will run off, instead of through, a feather; and this characteristic structure especially meets, in this manner, the emergency of providing a waterproof covering for the bird's protection. If we augment the obvious details with others of a minuter kind, we shall see how well these provisions are instituted.

The whole central column of a feather is termed the axis, or scape; while it is divided, for reference, into the quill, or lower part, and the rachis, or upper length carrying the vane, which consists of the fibres. These latter, called barbs, extend in close array and in pairs from the sides of the rachis. Each fibre (barb) has projecting from it a similar, though much finer, strand, called a barbule, as in illustrations Nos. 1 and 2. The barbules of one barb overlay those of adjacent members, with which they usually interlock by means of tiny hooklets along their sides.

An examination of the illustrations will explain how all the portions of a feather hitch together into a fairly rigid network; while still retaining the facility of being shaken open at any point. The hooklets are either absent, or

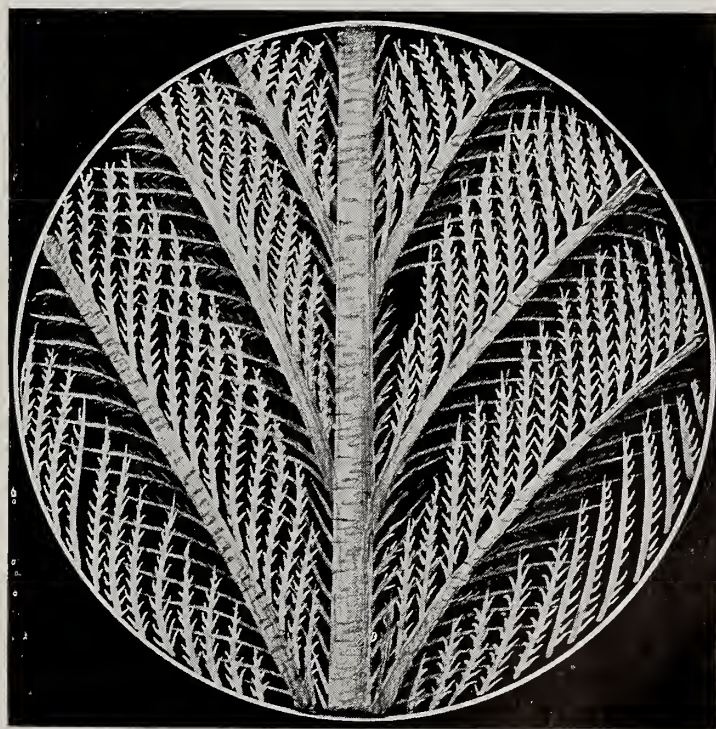


FIG. 1.—VIEW OF A CHICKEN'S FEATHER.
Magnified through a 1-24inch pinhole, showing the means
by which the feather becomes waterproof.
[Copyright.]

diminished in efficiency among the feathers of birds that do not fly.

Besides considerably restraining dampness, or, at any rate, wet, from soaking down to the

skin, this arrangement permits the feathers, when so required, to act as a number of light aeroplanes during flight. Of course, domestication reduces the development of many fea-



Fig. 2.—A FEATHER WITH ITS PARTS SEPARATED. The formation allows of the vein becoming woven together as an impervious substance. [Copyright.]

tures in birds and beasts ; but usually some of these atrophied characters can be traced by close observation. Even a fowl can occasionally surprise its owner by its aerial manœuvres. It does not follow that because certain classes of birds do not now fly, their ancestors did not do so. It only signifies that they have been deprived, generation after generation, of the opportunity or power of accomplishing such feats ; and in such cases Nature does not wholly reproduce superfluous details. Wings are *intended* for flight—that is an indisputable statement.

The down or fluff, although apparently so dissimilar from the remainder of the plumage, is practically identical in structure with it, except for restrictions. It has the same central shaft with barbules extending from each side, and these latter possess very minute barbs. A portion of this down is depicted in illustration No. 3, magnified to the same relative proportions, or scale, as the other examples of feather material.

The sulphurous odour of burning feathers is well-known. They contain a substance called keratin, as also does hair, and horn, of which claws and finger-nails consist. I ignite a feather and find that the outer ends of the vane-fibres are the first to be affected, as in

illustration No. 4. They roll up into black balls, that may be entirely consumed if the heat is continued. If some of this charred matter be placed in water, however, and pressed between two glass slides, it will be found to be regularly shaped, yielding particles of the kind shown in illustration No. 4. What really occurs when a feather is flamed is that the burnt matter is instantly melted, and encloses globules of gas with thin coverings of the glue-like substance into which it is instantly converted. These are in bunches, and harden immediately heat is withdrawn, so that a tiny charred piece is actually a rather pretty black lace-like group of cells.

The sulphurous smell of feathers thus treated indicates that such an element is a component of the body ; and thus accounts for the advisability of adding sulphur to the fowls' food when they show signs of slow-feathering. Cases of the kind require a teaspoonful of sulphur for every ten birds, two mornings weekly, with their soft food, over which it should be sprinkled ; or it may, if preferred, be mixed with it.

It is peculiar that the colour of a chick's plumage is not necessarily the same as that of its adult type, and will not, therefore, be in accordance with its adult display. Those birds which are normally black when mature may be expected to exhibit this trait to better extent

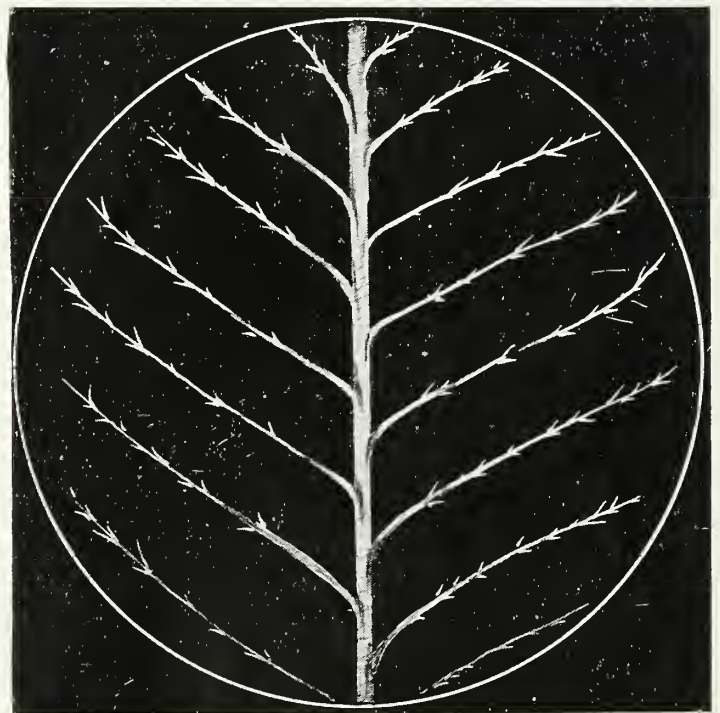


Fig. 3.—A SCRAP OF DOWN. [Copyright.] Magnified to the same degree as Figs. 1 and 2.

if, as newly-born chicks, their heads and breasts have an abundance of white among the fluff.

The important subject of sex can often be determined by reference to the plumage, if the poultry-keeper or expert has had extensive experience. The first appearance of the saddle hackies, even if very small, is a sure index to this matter, although there may not be any

The troublesome habit of feather-eating, either when a bird pecks itself or appears to irritate the plumage of others, is induced by a mite called *Sarcoptes laevis*, which multiplies at the roots of the quills. It is to remove these, and perhaps also lice, that the practice

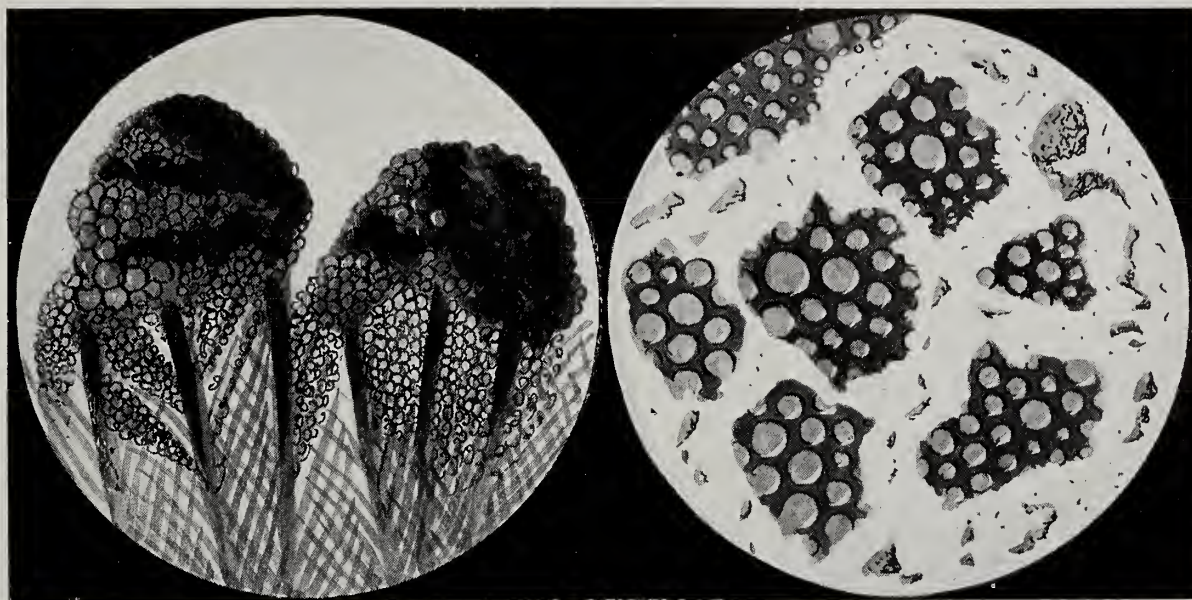


Fig. 4.—The first circle shows a piece of chick's feather burnt; the second, some of the charred matter pressed between glass slides. The feathers yield keratin. [Copyright.]

other serviceable details for guiding one's opinion.

We have seen that although feathers are little more than waste material at the finish, they are adjuncts of extreme value during life, and cannot be too well studied.

is indulged in. As the mites spread quickly, feather-eaters should be isolated for treatment, which consists of rubbing oil of cloves into the affected places. Another ointment is composed of one part of creosote to twenty parts of lard or vaseline.

MONTE-CARLOISM IN THE POULTRY INDUSTRY.

By EDWARD BROWN, F.L.S.

"SPECULATION IS THE SPIRIT OF BUSINESS ; GAMBLING ITS DEATH."

SOME years ago a well-known gentleman, since deceased, consulted the writer as to a scheme of poultry-keeping he had in view, one presenting some novel features. During the conversation many of the difficulties were pointed out, and how far the methods were speculative. That these had a sporting chance of success was undoubted, but it is always desirable to look at both sides of the shield. Finally, the following dialogue took place :

"Would you advise me to invest my money in the scheme in order to test it?" was asked by the inquirer.

"Yes."

"Would you be willing to share in it?"

"Certainly not."

"Why, then, do you advise me to do so, when you evidently regard its success as doubtful?"

"Simply because it is one of those pieces of pioneer work which are necessary to progression of the poultry industry, and which I should like to see tried. There is just a chance it may have something in it. You are a very wealthy man. If it fails the loss will never be felt. It will not trouble you in the least. I cannot afford to run the same risk. Consequently, it would be folly my embark-

ing on such an enterprise. Should it succeed the glory will be yours, plus the monetary profit. What you may do I dare not."

This fairly represents the position which everyone must take up who is earnestly concerned in poultry-keeping on industrial lines. Unless we are content to jog along the old high road, doing exactly the same as our fathers, believing that they knew everything worth knowing, and that Mother Nature has revealed all her secrets, we must ever be striving towards improved methods, be seeking in the light of greater experience better ways of attaining the end in view. As I have previously said in these columns*: "We must dream dreams, and form mental structures which in their fullest degree will never have any realisation; yet so far as they are afterwards constructed are of the greatest value." The testing of such dreams, of such theories, must ever be speculative in so far as these are untried, but that need not be gambling, which is a very different thing. The one is necessary and praiseworthy, the other is foolish and praiseless. Without the one all things would be at a standstill. The history of this and every pursuit has been a constant succession of speculative efforts—that is, of risking something to gain more. In the doing so many have lost, but more have gained. In so far as endeavours are justified by solid reasoning or by a measure of previous experience they should be encouraged. On the other hand, gambling is plunging recklessly into big operations without such justification, in the fond hope that large gains will accrue. Many years ago a syndicate sunk a pit shaft and spent £70,000 in following a coal seam under the North Sea, which burst into their workings; and the whole of their money was lost. That was not a gamble, but a speculation, because a score other pits bring coal from below the ocean bed.

I am led to make these observations because a spirit of gambling has been manifest of late in connection with our industry. If men desire that sort of thing no one need object. It is better than throwing gold upon the tables at Monte Carlo simply in order to enrich M. Blanc. The sport will be more prolonged, and there is an added advantage in it, for, although the individual will be out of pocket to the extent of his losses, he will have expended his cash on appliances and labour so that in these directions many will benefit. But those who venture their money in this way must accept the loss. If any of your readers are keen on such a gamble, and are willing

to be told straight truths in advance, I can point out not a few ways connected with poultry-keeping in which they can reduce their bank balances. It is said that Satan advised someone who was seeking for a means of unloading his money to establish a daily newspaper. Probably, poultry-farming can, on a more modest scale, be recommended for the same purpose.

At one time public companies were a favourite method of would-be fortune-making in poultry-keeping. Happily, we have not seen many of late, and the fewer the better. What cannot be accomplished privately will never be realised by joint stock concerns. But within recent years several instances have come under notice in which large sums of money have been lost by capitalists who, knowing nothing of the business, have been led into investments that promised huge returns on paper. These men, believing that they had got hold of a fine thing, kept it dark, did not seek the advice of those who could at least claim to have some knowledge and experience, until they were in difficulties. It seemed so simple. Under ordinary conditions one chicken or duckling can be produced from every two eggs. Provided that can be accomplished on a large scale, and the birds reared to a killing age in anything like a fair proportion, profit would be large in spite of heavy labour, food, and plant expenses. Where it breaks down is during the rearing stage. Thus the profits disappear. Every chick that dies influences the result. If a thousand are hatched and only five hundred live, the cost of each of the latter is doubled at the moment its fellow succumbs.

Two instances of the Monte Carlo spirit may be given out of many. For obvious reasons I cannot give names.

In the first, a well-known nobleman, a Vice-President of the National Poultry Organisation Society, sent me a letter received from a man who had been in America and was anxious to find a capitalist willing to finance a duck plant on Transatlantic lines, which he guaranteed would prove a great success, and asked me to interview the applicant and report. I did so, but this man claimed that it was a secret and refused to reveal it. Under these conditions no judgment could be formed as to the project, and nothing could be done but advise that it was undesirable to provide money for an unknown scheme. Nothing more was heard of the system for a couple of years, when a retired Army Officer reported that, seeing an advertisement in a leading weekly journal, he entered into communication with the man already referred to, and had been led to invest more than £2,000 in plant and

* Vol. I., No. 2, page 81; November, 1908.

stock, much of which had been imported on the suggestion that they were superior to any in this country. All went swimmingly up to a certain point. The ducks laid well, the eggs were fairly fertile, hatching was very satisfactory, and could sales have been effected at reasonable prices at that point the profits would have been good. As it was expressed to me, the man could hatch but could not rear. The ducklings died off literally by hundreds. Such as came to the killing stage were excellent; the trouble was there was not enough of them. And, as a consequence, the whole thing came to an end in about eighteen months. It was a gamble on the part of a man who knew nothing whatever about the business, and who had no reserves of experience when the time of stress arrived—an expensive piece of Monte Carloism, for between £2,000 and £3,000 was lost. In this case, however, it can be said that the method to some extent, though probably not in so intensive a manner, had proved successful in other hands. Had the business been started on a modest scale and gradually built up, extending as results were proved, probably it might have been in existence to-day, or at any rate the cost would have been small comparatively. The gambling spirit likes “sudden death,” “double or quits,” and “all or none.”

The second case differs in many respects, in that the method of rearing was one which has been tried before, but has never proved adequately successful. I should like to describe it in detail, and may do so on another occasion, but am not justified in doing so now, lest it might be thought to have a personal application. Enough if stated that many attempts have been made to attain success on similar lines, but without coming near that point. Here, again, the trouble was not infertility of eggs or hatching the chickens, but in rearing. The system adopted would entail a complete reversion of all ideas hitherto held as to what is needed during the growing period of life. That in itself does not involve any condemnation for reasons adduced above. If we once assumed the position that what has not been achieved hitherto can never be, then good-bye to progress. We should, indeed, stick in the mud. The fact that others have failed has often been an incentive to inventors. If Mr. Hearson had accepted the failures more or less of De Reamur, of Cantello, of Boyle, and many others to build a practical incubator, he would never have completed his celebrated machine. But this much can be said—that in each of these there was enough success to justify further attempts. And it may be said frankly that though the system

of rearing now referred to has never proved a practical success, enough chickens have been reared to suggest the desire for further investigation and experiment. In spite of the failures of the past, in spite of the fact that I have always been doubtful even as to the ultimate results, because it is a doubly-intensified method, I should welcome efforts to solve the problem, for, should a successful result be attained, it would advance productiveness enormously.

But in the case under review, instead of proceeding cautiously, of testing the system on a modest scale with a few hundred birds, of treating it as an experiment, operations were conducted as if the thing were a practical and proved success. The installation was equal to the hatching and rearing of more than a hundred thousand chickens per annum, and, although I have not the actual incubation figures, it would not surprise me if nearly that number were actually hatched in twelve months. Had seventy-five per cent. of the actual chickens born been grown to a killing age, although the general expenditure was extravagant and some of it needless, a very handsome profit would have been made. But here, again, die the birds would. A few days on this mortal sphere appeared to content them, and they passed by shoals into the unknown. And I am scarcely surprised. It is not my present purpose to criticise the plant as such, but life was not worth living even to a chicken under such circumstances. In fact, had the system proved possible, as I have seen it elsewhere, the application of it in this case was, in my judgment, thoroughly bad. That, however, does not concern us now. What must be pressed home is that to attempt as a commercial enterprise on a huge scale that which was doubtful in the extreme was a species of Monte Carloism having but one result. Thousands of pounds have been wasted. Much more good would have been done had the money been given to a hospital or for a National Poultry Institute. It has proved nothing, it has accomplished nothing, and the cash has gone for ever. Here, again, had a few hundreds been spent in testing the system, we might have learnt something valuable. That would have been a speculation, not a gamble. The allurements was that a few good birds had been reared, but the exceptional is of small value as a business proposition.

This story has been, I fear, much of a sermon, even including a text, but it will not have been uttered in vain if it leads those who are tempted to embark upon enterprises of the kind named to pause before doing so, unless they regard it from first to last as a gamble.

Then nothing more need be said. I once met a man who went annually to the Riviera, taking just as much money as he could afford to throw away. He always secured a return ticket and paid his hotel bill a week in advance, so that if, as was generally the case, his cash disappeared

under the croupier's rake, he was able to get home again. Evidently he thought the game was worth the candle. But the trouble is that such ventures as those before referred to inspire people to embark their all, and for them there is practically no return ticket.

TABLE - POULTRY SHOWS.

By J. W. HURST.

IT is not until the last quarter of the year that table-poultry classes are regarded with more than local interest, a fact for which the seasons are, perhaps, mainly responsible. Such displays of dead fowls as occur incidentally in connection with the summer agricultural shows are for the most part unimportant—the weather is against them. It is often a matter of considerable difficulty for a producer of table-poultry to get his birds to market in a condition fit for human consumption, and bearing in mind his experiences in this connection one can scarcely blame his chariness where summer shows are concerned. There are other reasons of more general application, but this is a chief factor in the limitation of the interest in such classes until such time as the schedule of the Dairy Show appears.

In at least one detail of their arrangements the Poultry Committee of the British Dairy Farmers' Association are wise in their generation, in that they realise the opportunity of the season and place the table-poultry classes in the forefront of their programme. The position accorded this section in such an important event is in effect a declaration of utilitarianism, an assertion of the intrinsic food value of poultry-production. So much, indeed, might be expected from an association of farmers whose object is the improvement of dairy husbandry, and if the result is not always equal to the evident intention the blame must attach rather to those who interpret than those who frame the conditions. It has often been the reproach of table-poultry shows, the Dairy Show not being singular in this respect, that the exhibits are not useful examples of profitable production; the exhibitors being largely actuated by a desire to show strikingly abnormal specimens of growth and weight, a tendency that has received some encouragement at the hands of judges. Such undesirable results are obviously arrived at by a more or less general disregard of the expressed re-

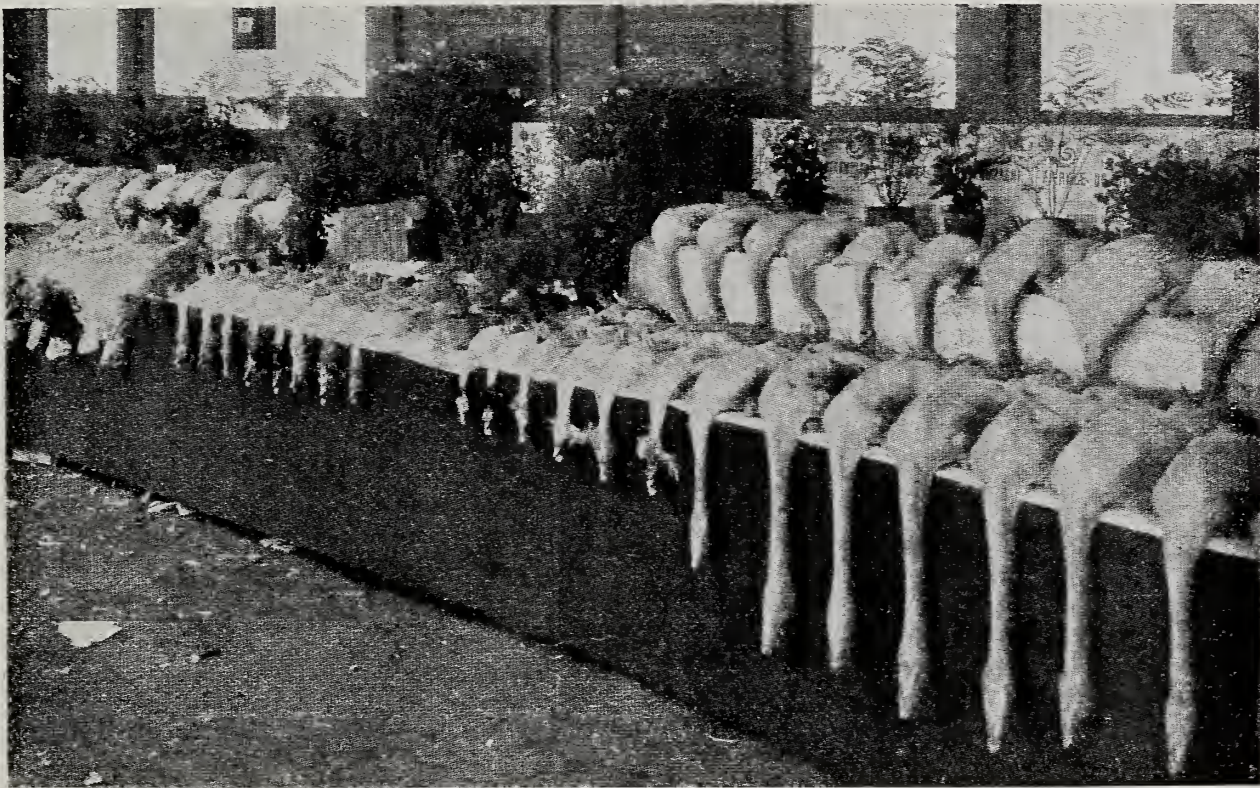
quirements—fineness of quality, smallness of bone, and absence of offal, in preference to mere weight. Whatever arguments may be adducible in favour of "mere weight," it is a character which cannot be upheld in face of the usual show conditions, but the judge is in a great measure helpless where the majority of exhibitors show a preference for weight. It is just here that the committee of a table-poultry show might save the situation and improve the educational value of the section, by the imposition of an age-limit.

As a matter of fact, there is room for exhibits of limited and unlimited age, an arrangement that would, perhaps, satisfy all who are directly interested in this section, and one class might very well be reserved for capons. As things are at present, the birds may be of any age that (in October) satisfies the general description "cockerels" or "pullets," and, moreover, they "may be caponised or not." It is really rather absurd to include in the same class chickens that may range in age from four months to eight or nine, any or all of which may be naturally fed or machine-crammed, together with capons. One does not envy the task of the judge who undertakes to adjudicate under such conditions, and one endeavours to be mild in criticising the awards—but it is difficult. Classes for cockerels and pullets might very well remain for the use of those whose aim is size and weight; the opportunity afforded by the general definition of the terms is sufficient for their purpose; and in addition to some separate provision for capons, it is especially desirable that the classification should include "chickens"—with an age-limit of, say, four months. Such "chicken" classes would, as a matter of fact, give to a table-poultry show the educational value that is so generally lacking. It is a fact, and whether it be known or not to the generality of committeemen I cannot say, that the best commercial producers abstain from showing because of the frequent wide divergence between the usual

exhibitional standard and the average of trade production. It is only by the imposition of an age-limit that such men would be induced to make entries of the right description—viz., specimens the display of which would really instruct the visitor. There is, of course, a possibility that some may raise an objection relative to the difficulty of judging whether or no a bird is within the limit of age, but judges with the requisite knowledge are not hard to find among the *producers* in this branch of the industry. Salesmen are excellent judges within the limits of their experience; but it must be conceded that a Sussex fattener is more fully acquainted with the cost of production, and is a better judge of the

it may be bluntly stated that the utility of table-poultry shows depends upon the imposition of an age-limit corresponding to the standard of commercial production.

To return to the schedule of the Dairy Show—as a leading and present example—a very useful and recent addition has been that of special classes “confined to farmers and cottagers being bonâ-fide rearers of chickens, fed under natural conditions, and not crammed.” So far, so good; but with a knowledge of the social and financial status of some of the exhibitors in the last two shows it is certainly desirable that the classes should, in future, be limited to *working* farmers and cottagers. As it stands, the condition would appear to imply that such



A REPRESENTATIVE DISPLAY OF TABLE-POULTRY.

[Copyright.]

class of fowl that is most profitable to the producer.

It is, at any rate, quite certain that many of the birds that carry all before them in the competition of the generality of table-poultry classes are quite unprofitable to the producer—apart from the prize-money and the glory of a rosette—whatever view the salesmen may take of the matter. I have discussed this question with a salesman-judge in front of typical examples of the abnormal class, and have been told that there is a ready sale for such birds; but a ready sale is of no use without the necessary limitation of the cost of production, and this involves an approximation to the given age-limit. Without any further labouring of the argument

is the intention, yet at least one exhibitor (and prize-winner) is mentioned in a county directory among “the principal landowners” of the parish in which his country seat is situated! Even with the present wording of the condition attached to these special classes it is a question whether such a man, employing an outside staff including a poultryman, can accurately be described as a “bonâ-fide rearer”; but if there is any doubt, the wording should be amended, to prevent such unfair competition with the possible cottager at the gate.

In the matter of preparation for showing in table-poultry classes it may be presumed that any marketer of fowls is sufficiently well informed to know how to meet the requirements

of the usual conditions, nevertheless, it is a matter for surprise that so many couples may be found badly and wrongly prepared in any show of many entries. Specimens that are bruised or torn in plucking, or discoloured through some defective method of killing, are by no means rare; and many fine birds are on this account outclassed by really inferior specimens. The best method of preparation includes the removal of all feathers except on head and neck, and the regulation regarding pinions is more often than not disregarded. The reference to trussing, although now defined

in the Dairy Show schedule as "shaped for market purposes," is not generally explained, and is in consequence variously interpreted by exhibitors according to local custom.

According to the standard of the Utility Poultry Club the following are the chief points demanding consideration in judging table-poultry: Size and quality. Youth, quantity and quality of breast meat. Straightness of keel, fineness of bone, absence of offal and surplus fat. General marketable appearance, colour of skin, &c.

WHO'S WHO IN THE POULTRY WORLD.

MR. J. F. ENTWISLE.

HEREDITY combined with opportunity is a strong factor in human experience. Such is the case with Mr. J. F. Entwisle, who has worthily and successfully maintained parental influence in Bantam-breeding. His father was probably the



MR. J. F. ENTWISLE.

greatest Bantam breeder and judge of his or any age, in that he originated some dozen types, both Game and Variety—a remarkable work for one man. Born in 1875, Mr. J. F. Entwisle was surrounded by Bantams and Bantam lore from his infancy, first at Wyke, then at Bawtry, and finally at Calder Grove. He owned birds when six years old, and a year later he bred some Golden Sebrights, with which he made his début as an exhibitor, winning prizes both at the Dairy and Palace Shows of 1882. During the educational period his interest in Bantams continued, but in 1892 the sudden death of his father led to his taking charge of the entire stock, a task which would at any time have been difficult, but to a youth of seventeen was supremely so. The results achieved are tributes to his grit, skill, and training. Many trials presented themselves, many disappointments. For a time it seemed as if the Calder Grove stock, having lost its master hand, would go under. But gradually the hard task was conquered, and to-day the Calder Grove Bantams occupy a position equal to that of any period of their history. He has created the Gold Polish and White Crested Black Polish Bantams, and also several varieties of Wyandotte Bantams. His success as an exhibitor has been very great, and birds bred by him have won prizes in many countries. At the last New York Show thirty-three winners were of his breeding. Before he was eighteen years old he acted as judge at Batley, in Yorks, since which time he has been similarly engaged at nearly all the leading exhibitions, and in our weekly contemporaries reports from his pen are frequent. He is also a most successful breeder and judge of pigeons, is a member of many societies, and President of the United Wyandotte Club. He married ten years ago. To-day Mr. and Mrs. Entwisle and their four children are carrying on the Bantam tradition with the greatest zest.

MR. GEORGE NICHOLLS.

THE locale of a laying competition is interesting to see, but the personality of its manager is of greater importance. The Grimley Poultry Farm, Worcester, is one of the places selected by

the U.P.C.; therefore, we include its proprietor, Mr. George Nicholls, in our gallery. He has the advantage of being a farmer, and yet has had a commercial training. Leghorns were his first love, but he has had considerable experience with Wyandottes, Orpingtons, and Rocks. When he took up



MR. GEORGE NICHOLLS.

pure-bred poultry nearly twenty years ago, one object was to combine exhibition and utility—a praiseworthy idea, but, as in many other cases, the maintenance of practical qualities meant smaller success in the show-pen than if everything were made subservient to the exhibition points. Mr. Nicholls acknowledges that in White and Black Leghorns he failed in his purpose, but claims that he has succeeded better with Brown Leghorns, in which he has taken many prizes. The fact here stated is noteworthy. In spite of this striving after what is probably unattainable, he is essentially a utility breeder, and, therefore, we may anticipate that the competing birds will be well looked after. In this work Mrs. Nicholls will share. That lady is equally enthusiastic, and her husband attributes much of his success to his wife's help, especially during the chickenhood stage. The farm at Grimley was only taken over last year, and the land to be used for the laying competition is fresh, which should mean much. Mr. Nicholls aims high in this competition, but meanwhile his thoughts are on the present rather than four months hence.

MR. WILFRID H. G. EWART.

ONE of the more recent additions to the group of writers on poultry subjects, whose contributions are doing much in promotion of the poultry industry, is Mr. W. H. G. Ewart. A Londoner by birth, he was educated for the Diplomatic Service, but a breakdown in health compelled the abandonment of that intention. Like many others, hens attracted him. Commencing upon a back garden in Dorset, where mistakes taught how much he did not know, after a time he found greater opportunities on a farm, learning more in the same way. By this time he had taken up Barred Plymouth Rocks, which are still his favourites, equally for exhibition and utility. Later, and for three years, Mr. Ewart worked in conjunction with Mr. J. Stephen Hicks, and gained much knowledge in breeding White and Black Wyandottes and White Orpingtons. Believing strongly in the theory of "one man, one breed," he has reverted to the Rocks, in which he has won several first prizes in keen competition, and has now a large stock. The training in keeping poultry



MR. WILFRID H. G. EWART

under such diverse conditions as named above has been most valuable. Whilst a specialist in poultry, Mr. Ewart takes very keen interest in all questions relative to country life, upon some of which he has written to a considerable extent.

THE PAYMENT OF PRIZE-MONEY.

By WILLIAM W. BROOMHEAD.

A MATTER that has come somewhat prominently to the fore during the past show season or two, and one that affects poultry specialists who are closely connected with the Fancy side of the business and that particular branch which comes under the head of exhibiting, is the manner in which some committees disburse the prize-money won at their events. On occasions a few lines appear in one or other of the poultry journals to the effect that prizes won at such and such a show have been sent to successful exhibitors. But when it is considered how many meetings of this nature are held throughout the country during the course of the season, it must be admitted that prize-money on the whole is not paid as promptly as it should be. There is no reason, nevertheless, why all such accounts should not be settled within a few days of the closing of an event. Promptitude in this matter, however, although highly desirable in the interest of the show itself, is by no means the general rule; in fact, it may be said to be of rare occurrence.

In an isolated case, perhaps, there may be a reasonable excuse for delay; but delays in this direction are becoming so very common nowadays that it may serve a good end to draw attention to them through such a widely-read medium as the RECORD. After all, shows of this nature are of public interest, hence those who manage them must not object to a little criticism of their methods. Cases of intended default, amounting to fraud, are happily of rare occurrence in these enlightened times; but the habitual procrastination in some quarters in sending out cheques or postal orders for prize-money has led to a considerable amount of complaint. It may not, perhaps, be a matter of great moment to the few very prominent men of the Fancy; nevertheless it is one that affects the vast majority of those who, it may truthfully be said, are the very backbone of the exhibition side.

In most schedules that I have perused—and I receive between 500 and 600 each year—there is a rule to the effect that payment of the entry fees must be sent with the entries, and that, in fact, none will be recognised unless so received by the secretary. To carry through an exhibition on business lines, such a rule as this is absolutely essential. No doubt most exhibitors imagine that it is carried out to the letter; but among a certain class—small, admittedly—this is by no means the case. More than one exhibitor, to my personal knowledge, forwards his entries without any fees at all, trusting to luck to win their amount of prize-money; and, remarkable though it may appear in face of the rule, such entries are invariably accepted. I have been told by secretaries who overlook their rule in this direction that poultry shows being so numerous nowadays, their hands have been forced. It is a very difficult matter, they say, to make a show pay, consequently every entry they can secure is of the utmost importance to the balance-sheet, and it would not answer to refuse them. Be that as it may, cases do occur where the exhibitor does not win the prizes he anticipated; and to secure the fees after the awards have been made, and the event is closed down for the season, is not always an easy undertaking; at best, it adds to the expenses. Beyond that, too, there is the trouble of contra accounts, and

it is surprising that such a system as this is tolerated.

Now, if the question is considered in a strictly business light, it will be admitted that there are few, if any, undertakings of which the receipts more certainly precede the disbursements than a fanciers' show. The money for the prizes is actually in hand before the show opens. In the circumstances, therefore, is there any just reason why the payment of prize-money should be so frequently delayed for weeks and months? Only those who have managed a show know what cost an event of a fair size entails; the expenses are legion, and the outer world and exhibitors generally have no idea of their extent. It is unreasonable to imagine, however, that poultry shows are self-supporting, hence there is no excuse for the delays, which are of frequent occurrence nowadays, in paying the prizes.

In some instances, and those, too, of no obscure or local exhibitions, it would appear as if time were always given to the successful fanciers to forget their prizes. Should they do so—and, strange though it may appear, this has happened within my own personal knowledge—it is so much gain to the society, or to somebody. An application may be made, but, often enough, a plausible excuse is forthcoming for the delay—it is the only amount overlooked, or the cheque has gone astray in the post. Sometimes, however, the secretary is so far honest as to say that no funds are available at present, some unforeseen expenditure having arisen which has had to be met, but that efforts are being made to meet all liabilities. And, unless the unpaid exhibitor is particularly persistent, or goes the length of taking the matter to law, he remains so much the poorer, financially, for his efforts.

It must not be imagined, of course, that all shows are conducted on such lines. There are many which are admirably managed, and where, the accounts being rendered in a proper manner, the prize-money is paid out with pleasing promptitude. It is well known that in some instances a sum sufficient to cover the prize-money is banked beforehand. Such a plan is an admirable one by way of a guarantee; and there is no gainsaying that it gives the public confidence in such a venture, with the invariable result that there are increased entries. The prizes have to be paid. The managers of every good show intend that they shall be paid, even at a loss to themselves. In the circumstances, therefore, it cannot involve any extra risk to themselves to put down a few pounds each as a guarantee fund before the exhibition takes place.

I have been told that there are certain annual shows where previous experience warrants something being trusted to the "gate," to the sum paid at the door by the visitors to the show. But the weather is a fickle jade, and, during the past two seasons, at least, it has been particularly damaging. I could name several shows within my own knowledge at which the takings at the gate have suffered severely on account of a wet day, and in connection with which the payment of prize-money has been delayed. If an event fails to make both ends meet, then the promoters must suffer. Theirs is the risk; if the venture is a huge success, theirs the honour and the glory. In that event the amount of prize-money is not increased; hence if a failure is the unfortunate end—and it is very unfortunate to see a promising attempt close down in dismal failure—they must stand the racket.

It is the small man in the Fancy who is the hardest hit by the long delay in the payment of prize-money. Yet he is just the one who should be encouraged, since without him competition would fall flat. Trouble and vexation about the slow payment of prizes—aye, and of sale-money, too, since often enough that is long withheld—frequently discourage him until he ceases entirely to exhibit. Those who are responsible for our poultry shows, and fail to get out of the ventures the financial success they anticipated, will not suffer any the less by delaying a month or two about paying up; in all probability any show they may in future undertake will suffer the more from a resulting lack of confidence. As an amateur said to me quite recently when we were discussing this subject of prompt payment: "If the shows paid out quickly it would mean better entries all round, since there would be money in hand to play with; but, as it is, we small men do not like to have our money outstanding so long." It is true enough.

The curtailing of prize-money on account of lack of entries is bad enough; the procrastination in forwarding amounts which have been legitimately won is far worse. Let those who undertake the running of poultry exhibitions, therefore, see to it that everything is above board, and that prize-money is sent out to successful exhibitors within a few days of the closing of the show. It tells in the end.

FOWL TICKS AND TICK-BORNE DISEASES.

By FRED. V. THEOBALD, M.A., &c.

THE part played by ticks or *Ixodidæ* in the spread of various diseases is now well understood. That Redwater or Texas Fever and East Coast Fever in cattle, that Heartwater in sheep and Malignant Jaundice in dogs are all spread by the agency of ticks is now a proven fact. Moreover, we also know that in Africa man is subject to a serious disease called Tick Fever, which is solely brought about by the bite of these Acari inoculating man with a definite parasite. The particular tick (*Ornithodoros moubata*) may become infected in two ways. It may carry the parasite direct from a man suffering from the disease or it may be by the offspring of an infected tick.

These tick-borne diseases are caused by animal parasites of two kinds, known as Piroplasmæ and Spirochaetæ. The former are protozoa—simple forms of life—which are parasites in the blood corpuscles; the latter are also protozoa, which live in the blood fluid. So far I am not aware of any species of Piroplasmæ having been found causing disease in poultry, but Spirochaetæ cause serious loss amongst them. On account of the close resemblance between the protozoon Spirochaeta and the bacterial Spirillum, these diseases caused by the former have been spoken of as "Spirillosis." These lowly forms of life were first shown to be present in fowls in South America. Marchoux and Salimbeni in 1903 were the first to investigate this matter at Rio de Janeiro, where there was a heavy mortality amongst poultry. They showed most conclusively that the disease was due to the presence

of Spirochaetæ in the blood and, moreover, traced the means by which the birds became infected. The culprit proved to be a tick called *Argas miniatus*. Moreover, they proved that a tick which had previously fed on a bird suffering from "Spirillosis" remained capable of reinfesting other birds for a period of five months. More recently Balfour has shown that a similar disease affects poultry in the Soudan, and more correctly calls this disease Spirochaetosis. He finds this disease common amongst the native fowls but not so very fatal, but any new breeds introduced soon fall a prey to it. The fowls he investigated were Leghorns, and they were covered with the tick known as *Argas persicus*. Later, Reaney found fowls at Agar, in India, suffering from a similar disease, as also did Montgomery, who, in addition, refers to an allied disease in ducks at Lahore.

A similar disease has been shown to exist in Southern Rhodesia by Beran, who points out that it is most prevalent during the spring months of November and December. This is, apparently, because, the ticks are most abundant at that time. In acute cases the birds die in a single night. In Cyprus an endemic Spirochaetosis has been shown to exist, especially during the hot months of June, July, and August. The tick implicated here has proved to be *Argas reflexus*. This disease in poultry, therefore, seems to be widely distributed, occurring in South America, in North and Central Africa, in India and Cyprus. In consequence we may expect to find that the often unaccountable loss of poultry in countries where ticks abound is due to protozoal blood parasites carried by ticks. The great harm done by ticks (*Argas persicus*) in South Australia and Victoria is probably because a blood parasite is carried by them. Besides the fact that ticks spread these diseases, we find that they are extremely harmful in other ways. The tick is provided with mouth parts which are very formidable and which they bore into the skin of the bird, animal, or man that they feed upon. This proboscis is so formed that it gains a tight hold of the flesh, being provided with numerous backwardly projecting spines. So firmly do ticks hold on that when one tries to pull them off their heads remain attached to their host's body. Together with this annoying bite, we must remember that they feed upon blood and take considerable quantities of it. The result is that *Ixodidæ* cause endless loss by direct attack when they occur in numbers. We know that they do so in most warm climates. Ticks simply by their bite kill far more fowls than the Red Hen mite.

The chief ticks which attack fowls, ducks, geese, and other birds belong to the groups known as *Argas* and *Ornithodoros*. These are united together as *Argasinae*, and are easily told from other ticks by the absence of either a dorsal or ventral shield, and by the rostrum being placed beneath the head and thorax when they are mature, and also by the body of the female not swelling abnormally when gorged with blood. The *Argasinae* may be called domesticated or house ticks, for they are usually to be found in houses, fowl-runs, dove-cots, &c., and are mainly parasitic upon man and poultry. They are all nocturnal, and hide away during the day-time in any crevices they can find, in any dark corners, and amongst dry fowl and pigeon manure. One of the true *Ixodidæ*, which have a distinct dorsal shield and the head exposed from above,

known as *Dermacentor reticulatus* also attacks poultry in Britain.

The most important ticks affecting poultry are *Argas persicus*, *Argas reflexus*, *Argas miniatus*, *Ornithodoros moubata*, and *Dermacentor reticulatus*. *Argas persicus* occurs over the Southern and Eastern Countries of the Mediterranean area, in Russia, Turkestan, China, South and North Africa, Australia, and probably elsewhere. In Persia its bite is known to be most virulent, and it is there called the Miana Bug. In all its localities it attacks man and poultry. In South Africa this tick is known as the "Tampan." Its body is flat and is oval in form, slightly narrowed towards one end like an egg. Mature Tampans often reach one-third of an inch in length. Their colour varies from dusty brown to blue-black in newly-fed individuals. The female lays her eggs in crevices in the fowl-houses. The young ticks soon hatch out and have only six legs, whilst the nymphal and mature ticks have eight. They feed on the birds for six or seven days and grow to the size of one-tenth of an inch and look like little round lumps on the skin. They then moult their skins, and henceforth become purely nocturnal visitors. After several moultings of the skin ticks become mature. The females then take a feed of blood about every four weeks, and between these feeding periods they lay their eggs. This species has not so far been found in Britain. This was the tick found in swarms on the Leghorn fowls at Khartoum dying from Spirochaetosis.

Argas reflexus.—This kind has been shown by Williamson to be the cause of Spirochaetosis of fowls and ducks in Cyprus. It has been found in Britain. At one time it was quite common in Canterbury Cathedral, where it was evidently parasitic on the numerous pigeons that breed in the towers. The adult female is a quarter of an inch long and the thin skin allows the brown or dark violet colour of the digestive organs to show through, the margin remaining yellowish and raised; the smaller male is uniformly brown. This tick is common in Italy and in some parts of France, and also occurs in Germany. It especially attacks young fowls and pigeons, particularly on the neck and breast.

Argas miniatus, another tick, is very similar to *Argas persicus*. It occurs in Central and Southern America, in the West Indies, and the Southern States of North America, also in New South Wales. This is the species causing "Spirillosis" in poultry in the Brazils.

Argas mauritianus causes considerable loss in the poultry-yards in the Mauritius.

Argas americanus was sent me from Western Australia in 1903, where it was doing considerable harm to poultry. This fowl tick is also recorded as very harmful in America by Packard.

Ornithodoros moubata, the carrier of Human Tick Fever, has been found on poultry in Africa. Fullerton and Mayer have shown it to be an effective carrier of *Spirochaeta gallinarum*. This tick has been shown to be infective for 103 days after biting a diseased bird. It is widely distributed over Africa.

O. turicata also proves fatal to fowls in Mexico, Florida, and Texas.

Dermacentor reticulatus has been sent me from several places in England, having been found on the heads of turkeys. This tick is three-fifths of an inch long in the female when distended; it has the brown dorsal plate speckled with white. It is

widely distributed over Europe and America, and is the carrier of the malignant jaundice parasite of dogs in Europe, and has been thought to be the cause of Spotted Fever in the Rocky Mountains.

These are the chief ticks which attack poultry in the world.

Their life-history is simple in regard to the Argasinae. The ova are laid in crevices, &c., of buildings, and the young six-legged ticks feed for some days on their host and then fall to the ground, where they moult their skins and become eight-legged nymphs, not yet sexually mature. The nymphs feed nocturnally and later moult their skins and become the sexually mature acari. These feed when opportunity occurs, usually the female Argas feeds once a month. Laurie says the ticks in South Australia often lay their eggs on the birds.

Ticks are extraordinarily fertile, some laying as many as 20,000 eggs, others, such as *Ornithodoros*, only 140. Their great vitality and longevity are marked features. Megnin had in his possession *Argas persicus* which lived four years without any food.

MEANS OF PREVENTING TICKS IN POULTRY-HOUSES.

In countries where ticks are a pest to poultry, all cracks and crevices in the houses should be filled in with tar or some other substance. It is advisable to have roosting-places made by swinging the perches by wires from the roofs. The houses should be built of corrugated zinc, and not wood, and may be kept cool by painting them white outside and tarring them inside. Infested houses are best cleaned out by burning sulphur several times. Washing down with paraffin is also a good plan. Attacked birds may be cleaned by dressing them with grease which is fatal to larval ticks, the only stage found in the birds during the day. Any fowls caught at night may have ticks on them, and before being sent away they should be freed from these parasites, which would lodge in crevices, &c., of the crates and baskets. Birds should be quarantined for eight days to allow any larval ticks to leave them. These larvæ can be killed later in the quarantine boxes with paraffin.

It is most essential in countries where ticks are common amongst poultry to see to their eradication, as they may cause endless loss, either direct or by spreading the fatal Spirochaete blood parasites.

In Victoria and South Australia there are laws dealing with ticks on poultry. In the latter State the subject comes under the Stock Act. Imported birds must be accompanied by a certificate of cleanliness.

CARE OF STOCK DUCKS.

WHILST the keeping of poultry has increased enormously during the last few years, it cannot be claimed that duck-breeding has developed to the same extent. Why this is so is rather difficult to explain, since duck-breeding, when conducted on the right lines, is undoubtedly one of the most profitable branches of poultry-keeping, as the demand for early ducklings at good prices is well maintained. It is very often thought that it is only possible, under certain conditions, to be successful in breeding and rearing ducklings, and this idea deters many from taking up this work. Certainly the general conditions are factors not to be

altogether disregarded; for instance, ducklings grow much more rapidly when reared on high gravelly soil than would those kept on swampy, undrained land.



A USEFUL CROSS—AYLESBURY-PEKIN. [Copyright.]

On most farms a few ducks are kept, which are sold at any time of the year at prices ranging from two shillings and sixpence to three shillings each. This leaves a very small margin for profit; since ducks are very gross feeders. Unless they are ready for market when in their duckling feathers, some months must elapse before they are again in the same edible condition; therefore the crucial point is to get ducklings ready for killing at nine or ten weeks old, and this stage must be attained early in the year, when prices rule highest. To achieve this, eggs must be obtained in sufficient time to allow hatching to commence in October. This is not always easy of accomplishment; in fact, it is a very difficult matter, unless the previous management has been directed towards laying the foundation for the autumn and early winter supply of eggs. Young ducklings must be relied upon for this

supply, as they commence to lay earlier than will those that were hatched during the previous year. Undoubtedly February-hatched ducks are the most reliable, and when those are mated with two-year-old drakes, there is small danger of weakness in the progeny, since age is possessed by one parent. The ducks selected for breeding purposes should be large and from good parent stock, with no sign of hereditary disease or other weakness. Their early treatment should be all in the direction of building up a large frame and good constitution, and the food should be of a nature that will store up stamina, so that when their time arrives for breeding they are able to bear the strain. It is frequently imagined that any kind of food will do for ducks, and cases may be found where they are fed with the "swill" provided for the pigs. This is quite a mistaken idea, as sound, nutritious food is quite as necessary for ducks as for any other kind of poultry. Nothing of a fattening nature should be given, since grossly fattened specimens are very rarely good breeders.

Where the object is the production of early spring ducklings, Aylesbury, or Pekin pure, or a cross between the two are undoubtedly the best for the purpose. They should be mated early in September, running one drake with three ducks, and the eggs are generally fertile after the first ten or twelve although they should be tested from time to time, and, if not satisfactory, two drakes may be run with five ducks. Access to water is necessary for the breeding stock. This not only assists fertility but strengthens the young ducklings. A large pond, or running stream, is not absolutely necessary, as, so far as the actual swimming is concerned, a tank sunk in the ground or any form of artificial bath will answer the purpose; although under these conditions no natural food is to be obtained, and consequently more food has to be supplied. Ducks are excellent foragers, and where they are fortunate enough to



SOME WELL-ARRANGED BREEDING-PENS FOR AYLESBURY DUCKS. [Copyright.]

have a farm, village green, or garden to roam over, they will obtain much in the way of worms, grubs, &c., which are helpful in maintaining health and vigour in breeding stock.

After mating, the feeding of ducks is of the utmost importance, since all else is in vain if the eggs are not produced at the right time, and everything must be done that will assist to this end. A good plain diet, strong in nitrogenous matter, is necessary. Food very largely governs both the quality and number of eggs produced. The soft food, which should be given as early as possible after daylight, may consist of barley-meal and middlings, with the addition of meat scraps of almost any description, provided that the meat is fresh and well boiled, and given in small quantities. Butchers' offal—lean meat being preferable—horseflesh, or anything else of a like nature are all excellent for ducks, being strong in the elements mostly needed for the production of eggs. For the evening meal there is nothing better than oats, wheat, or barley. When the birds are at liberty they can usually obtain all the green food that is necessary, but when the space is limited, vegetables should be supplied. Cabbages, lettuces, dandelion, turnip-tops, or anything of the sort will have a cooling influence, and tend to keep the ducks in perfect health.

It is frequently claimed that ducks are so extremely hardy that little or no housing is required. This, however, is quite a mistaken idea. What is suitable for the wild duck would be absolutely fatal for those under domestication. They do not in any way differ from hens so far as comfortable and sanitary sleeping quarters are concerned. The form of house, however, need not, perhaps, be of the same expensive description. Almost any kind of out-building can be utilised so long as it is weather-proof. If no buildings of this kind are available, or for those who prefer to make their own houses, it is a very easy matter. A duck-house need not be high, three feet being quite sufficient, provided that the floor space is ample, say, three square feet per bird. The floor should be raised about two inches above the earth, and made movable so as to facilitate cleanliness. The house should be bedded out with chopped straw, chaff, or peat moss litter. Whatever sort of bedding is used, it is most important that it be regularly raked over and frequently renewed; inattention to this is a fruitful cause of disease, for ducks very soon become contaminated, hence the necessity for perfect cleanliness.

During the time that the eggs are required for hatching, the ducks should not be unduly disturbed nor moved from one place to another, as this tends to retard laying. Success, or otherwise, in rearing spring ducklings very largely depends upon the method of management of the parent stock.

PURE VERSUS CROSS-BREEDS.

By FRED W. PARTON.

THERE is a wide difference between mongrels and cross-breeds. At the same time, one is very often confounded with the other. A mongrel is a fowl that has been crossed and recrossed until no trace of the original breed remains. The progeny from the mating of pure breeds of different varieties are first crosses. Which is the better of the two, pure or cross-breeds? This question is frequently

asked, not only by the beginner, but by those of some experience. It is impossible to give a definite answer without regard to the object in view. They both possess distinct advantages. It may be well to enumerate some of the advantages of both from the utilitarian standpoint. The question hardly concerns the exhibitor, as the cross-bred fowl is of no value for his purpose.

On many farms pure-bred birds are kept for the production of eggs, which are marketed in the usual way for consumption. At the same time, a number of sittings are disposed of each spring, to neighbouring poultry-keepers, for two or three times their market value. In addition to this, instead of marketing the cockerels as soon as they reach an edible age, they may be kept until the following season, when no difficulty should be experienced in selling them for stock purposes, at prices which will amply repay the extra labour involved, and the food consumed, before they attain the age when their services are required for breeding. This is undoubtedly a manifest advantage in favour of pure stock. They have a further claim for supremacy in that the economic qualities can be conserved and fixed with a rigidity impossible in a cross-breed. With careful selection the laying powers of a breed, when once it has become established, can be retained and transmitted from one generation to another with as much certainty as can the colour, comb, or any other external characters.

Whether pure or cross-bred fowls will produce the more eggs it is impossible to say, supposing both to be evenly handicapped—that is, the pure stock to be of a good laying type, strong, hardy, and not inbred, and the cross-breeds to be first crosses between varieties suitable for egg-production.

When birds are kept absolutely pure year after year, there is a tendency to develop the exhibition type, and this is detrimental to the economical qualities, after a certain point of purity is reached. It is found that when birds show signs of failure, either in size or fecundity, an introduction of foreign blood will rapidly restore their lost vigour. This is one of the chief points in favour of crossing, and undoubtedly a very important one. Crossing should not be done merely for the sake of crossing, but some clearly-defined object should be in view, such as the strengthening of an impaired constitution, an increase in the size of body, or an improvement in the laying or table qualities. All this can be accomplished if there is some method in the selection of the birds to be crossed. Fowls are sometimes used for this purpose without any forethought as to what the progeny of the union will be. There is small doubt that cross-bred fowls are hardier than their more tenderly bred brethren, and are better able to withstand a cold, exposed situation and the rough usage of life on a farm, where very often the housing and general management are not of the best. One of the most important points to be observed in crossing is to see that the stock to be mated are old-established breeds in which the type is thoroughly fixed. This applies to both sexes, but more especially to the male bird. The older the breed, the stronger is its prepotency, and its own distinctive characteristics are impressed upon the progeny to a remarkable extent when they are crossed with birds of less fixity of type. Take, for instance, an Old English Game, Dorking, or Houdan male, and mate it with some of the newer breeds, and the type of the

former is very manifest, and for generations after the introduction it is apparent.

It has been asked what benefit can accrue by crossing birds of similar type and almost identical economic properties—say, the Minorca crossed with the Leghorn. It is not desired, nor is it possible, to increase the size in either by this mating, nor yet would the laying be improved, since they are about equal in this respect. There would be no advantage in this cross, unless lessened fecundity or other sign of degeneracy necessitated the introduction of another breed, and the owner wished to retain the excellent laying qualities of either the Leghorn or Minorca, and at the same time did not desire to introduce a breed with other economic features which might detract from the former quality. There are other crosses for laying fowls where distinct advantages exist, other than the restoring of lost stamina. A Minorca and Hamburg cross will lay a considerably larger egg than will a pure Hamburg, and at the same time, to a slightly modified extent, the yield in numbers will be retained. Houdan male with White Leghorn hens is one of the best crosses for laying, and in addition to this, the cockerels grow rapidly in the early stages; they fatten fairly well, and are quite respectable on the table. The pullets are extremely hardy and remarkably good layers; the size of the crest is considerably lessened, this being an advantage, especially in places where adequate shelter is not provided.

When the production of table-poultry is the primary object, there is no doubt that crosses grow very much quicker than will pure breeds, and are consequently sooner ready for market. It must be apparent to all that a chicken which attains the same weight and edible condition at fourteen weeks as does another at sixteen or seventeen weeks must be the more profitable of the two. This is invariably the case with the cross, provided, of course, that the cross has been between birds whose characteristics blend in harmony. The Old English Game or Indian Game will improve the meat properties of any bird with which it is mated, and, as has been acknowledged for many years past, either of these cockerels crossed with Dorking hens produce an ideal table-chicken. It is not, however, very easy to rear these birds to perfection, as soil and general conditions must be favourable. A cross that is considerably harder, if not perhaps quite so good, is a Game crossed with White Orpington or Faverolles hens. Either of these will be found an excellent substitute; they mature very rapidly, are good in quality of flesh, and find a ready sale.

ANATOMY OF FOWLS.

By G. BRADSHAW

(*Department of Agriculture, New South Wales*).

EVERY poultry-breeder, at one time or other, has had fowls die suddenly, and his first prompting usually is to dissect the fowl—to perform a sort of anatomical examination—with the purpose of discovering some clue to the bird's death. Unfortunately, when the dissection is completed, very few of us have the requisite scientific knowledge of the various parts to make a correct diagnosis, the investigation being thus barren of results. The structure of the fowl's body is very complex. The

whole framework is bound together by muscles and tendons, and within the framework are the digestive organs, through which the food passes into the body, where it is assimilated. Then there are all the respiratory organs, and the urinary apparatus, through which waste is removed from the blood and passed into the digestive canal, where, with the waste from the food, it is voided. There are the circulatory, the reproductive, and the nervous systems, and the locomotory apparatus.

THE LOCOMOTORY.—This, in the fowl, consists of bones, muscles, ligaments, and cartilages, and provides for all movements. There is the head, supported on a curved stalk, the bones of which are known as the cervical vertebræ, or neck-bones. Down the centre there is a central passage, which serves as a conduit for the spinal cord. Following this is the dorsal, or back, vertebræ; then the lumbar, or loin, vertebræ; finally, the coccygeal vertebræ, or "pope's nose," where the spinal cord ends. The breast-bone we all know, and there are seven pairs of ribs. The shoulder comprises the scapula, or shoulder blade, the coracoid, and wish-bone, and the joint with the arm-bone or humerus. The leg-bones are three in number; the largest is termed the tibia, the long thin bone at its side the fibula, and the small wide bone at the joint of the thigh-bone and tibia the knee-cap or patella. Next come the tarsus and the metatarsal bone, usually spoken of as the hock and leg, and corresponding to the bones of the foot and ankle in man. Some of the muscles are to aid the movements of the wings, others are balancing muscles, while some help to support and protect the portion of the body to which they are attached.

THE DIGESTIVE SYSTEM.—The parts of the fowl more or less connected with the digestive functions are the beak, mouth, tongue, gullet, stomach, and intestines, and with these in a more or less way the liver and pancreas glands. In man digestion begins in the mouth, where the food is masticated and mixed with the saliva. In fowls the system is different, there being very little saliva, and it is thought that the tongue is of small use as an organ of taste, and assists in swallowing only. About half-way down the gullet is the crop, which is a sort of reservoir for feeding the stomach. Below this, the gullet, or œsophagus, opens into a glandular stomach termed the succentric verticle; the food here gets mixed with the gastric juices, and proceeds then to the stomach, or gizzard, where the food is ground by the grit therein to a fineness enabling it to be acted upon by the digestive juices. From the gizzard the masticated food proceeds into the first section of the intestine, the duodenum, where it is transformed into a more digestive substance. Between the sections of the intestines lies a glandular body, the pancreas, which secretes a digestive fluid, its duct opening into the intestines, where the juices are mixed with the already digested food. Opening also into the duodenum, at the back of the pancreatic ducts, is the canal of the gall sack, by which the bile is secreted and emptied into the intestines. This also assists in promoting muscular action of the intestines, whereby the food is forced onwards, either to be absorbed by the blood or voided as waste. The liver has several functions. It plays an important part in the purification of the blood; it secretes bile, supplies heat to the body, &c. The spleen is a wine-coloured, disc-shaped body, lying at the

right side of the stomach, but the part it plays in the physiology of poultry is not known. The small intestines consist of a number of convolutions, in which the food undergoes further changes. The portion of the intestine extending from these becomes larger in size, and is known as the rectum, and opens into the vent.

THE RESPIRATORY APPARATUS.—The respiratory system in fowls is different from other animals, the lungs being situated on either side of the backbone. This apparatus consists of the larynx or opening into the windpipe of the fowl, the trachea or windpipe, the bronchial tubes, and the small branches extending therefrom to the lungs.

THE URINARY SYSTEM.—The urinary apparatus in fowls is made up of the kidneys, which are reddish-brown, lobular bodies, situated in the bony cavities on either side of the backbone, occupying the space below the attachment of the ovaries or testicles. Each kidney has three lobes. Attached to these kidneys are white cord-like ducts, the ureters, which communicate with the cloaca. The urine is mixed with the fæces, or excrement, in the cloaca, and is represented by that part of the droppings which is white or chalky in colour. The fowl has no bladder.

THE CIRCULATORY APPARATUS.—The circulatory apparatus in fowls comprises the heart, the blood-vessels, veins, and the lymphatic glands and vessels. The heart is composed of two parts—a hard and a soft part. The soft portions are known as auricles, and the hard as the ventricles. The work of the heart is that of a pump for forcing the blood into the arteries. The blood is received in the auricles, passing from them into the ventricles, from which it is forced into the large main artery and its branches. The lymphatic glands are few in number, and are found chiefly on either side of the neck, where they may be recognised as small bean-shaped bodies.

THE GENERATIVE APPARATUS.—The generative or reproductive organs of the male fowl are the testicles, the sperm duct or deferent canals. The testicles, which are located close to the backbone, are whitish bean-shaped glands, which vary in size according to the age of the bird and the season of the year. The reproductive organs of the hen consist of the ovaries or egg-cluster, situated in the same position, attached to the backbone—as are the testicles in the male. The oviduct is a flexuous, long, wide, and dilatable tube. This begins near the ovaries, having a fringed opening, and terminates in the cloaca. The ripe yolk of the egg, when detached from the cluster, is received in this oviduct, where it is invested with albumen, and later on with a parchment-like envelope, which, still later, becomes the firm, hard shell when the egg is ready for expulsion.

THE BLACK-RED MODERN GAME.

OF the Game fowl there are two distinct types, the Old English and the Modern; but the latter is purely a fancy breed, since few poultry-keepers would think of going in for Modern Game as table-fowls or layers. They do not excel in either direction; in fact, as layers they are about at the end of the list, and a bad finish, too. It is as an exhibition sort, therefore, that the breed must be considered. Of the several varieties the Black-

Red is the best known, possibly because it is the hardiest. The breed is by no means a popular one, although when there is anything like an extensive classification offered for it there is generally a good display. For many years the best show of the season was at the Birmingham event, but recently good entries have been made at the Crystal Palace and at the Kendal Game Show.

The Black-Red, the Black-Breasted Red to give it its full title, is a pretty enough variety as regards colouring, the cock's neck being light orange, the back and saddle rich crimson, the wing-bow orange,



A MODERN GAME BLACK-RED COCKEREL.

and the remainder of the plumage green-black. The hen's neck hackle is gold slightly striped with black, the breast rich salmon, running to ash-grey on the thighs, the tail black, and the remainder of the plumage a light partridge-brown ground, very finely pencilled, and with a slight golden tinge pervading the whole.

The chief points about Modern Game are style and shape, condition, and shortness of feather, length of limb, and keenness of head. Few judges care much for the colour of a Black-Red, although colour, of course, must count in strong competition, and according to the Poultry Club Standard for the breed it is twenty of a possible hundred. To merit its name, however, a Game fowl must be "gamey" and a Modern Game tall and well set.

FANCIERS AND FANCY MATTERS.

By WILLIAM W. BROOMHEAD.

Variety Langshans—The Poultry Club Election—Pekin Bantams—Faverolles—The Ancona—Variety Bantams—Sale of the late Mr. Porritt's Poultry—October Shows.

VARIETY LANGSHANS.

Being recently in Weybridge, Surrey, I called at Brooklands, not for the purpose of watching the aeroplane trials, but to see "things that fly in feathers." Here I found Mr. J. E. Harper and a goodly fancier's yard. For some years now Mr. Harper has been strong in Langshans of the so-called Modern type, and with Blacks, Blues, and Whites he has been very successful in the show-pen. He still possesses some excellent specimens of these three varieties; but during the past two or three years he has extended operations, and now keeps such popular breeds as Black, Buff, and White Orpingtons, White Plymouth Rocks, Light Sussex, and Partridge and White Wyandottes. With all of these varieties he is at present going strong; and since he has hatched out quite a nice lot of chickens, his name is likely to be seen well up in the prize lists during the coming show season. A more suitable place for the keeping of fowls, and particularly those whose plumage is liable to become much discoloured by exposure to the elements, I have yet to find. The whole of the pens are in a light wood of some thirty or forty acres; and since the young stock has practically free range, it can be imagined that the birds grow well. The land, too, is of a light nature and drains well; and the only drawback is a lack of vegetation suitable for the birds, although Mr. Harper is careful to see that they are plentifully supplied with cabbages and other produce of the kitchen garden.

THE POULTRY CLUB ELECTION.

From what I have heard, and I have the information from Mr. G. Tyrwhitt-Drake, who is acting as secretary of the election sub-committee of the Poultry Club, the results of the election are likely to be available at the Dairy Show meeting during the present month. Mr. Drake tells me that all was plain sailing in connection with the nomination papers, and that he did not anticipate any hitch over the voting forms. There appears to have been some discussion among members of the club as to whether each section shall elect its own representatives; but, apparently, the voting forms will be on the same lines as the nomination papers—that is, members will be allowed to vote for whom they like, irrespective of the sections to which the voters belong. Possibly the Council will be called to book for allowing such a proceeding; but, in my opinion, the resolution concerning the change was not fully discussed at the November extraordinary meeting last year. The whole case, I think, should have been settled at the time; and, as I said in last month's notes, it would have been much better to have formed the various sections according to groups of counties rather than on the membership basis. Certain members of the club are for ever clamouring to have meetings at the big shows of the season, but my experience of such meetings is that comparatively little business is transacted at them. The different sections, of course, have their representatives in the county delegates, who

are elected by the county committees; but I cannot help thinking that it would have made their positions stronger had the voting been confined to the sections instead of being broadcast, as it were.

PEKIN BANTAMS.

Readers of the RECORD who are interested in Pekin Bantams should note that at a meeting of the Pekin Bantam Club held at Bingley Show on August 31, Mr. J. W. Sugden tendered his resignation as hon. secretary, and that Mr. J. Fred Entwisle was unanimously elected in his place. The club has decided to offer its challenge bowls for competition at the Variety Bantam Club Show, which is to be held at Sheffield in December in connection with the Combined Specialist Clubs Show. Mr. Entwisle (The Firs, Calder Grove, near Wakefield) asks me to say that he will be pleased to hear from fanciers who wish to join the club. By the way, Mr. Entwisle had quite a field day with his Bantams at Penistone Show (one of the most important Bantam exhibitions of the present day), winning four special prizes, ten firsts, four seconds, and three thirds.

FAVEROLLES.

One of the specialist clubs that will not be at Sheffield this year is the Faverolles. This club



A FAVEROLLES COCK.

has decided to hold its annual event in conjunction with the Manchester fixture on the 25th, 26th, and 27th inst. The classification will be on rather more extensive lines than usual, and, in addition to nine

classes for the Salmon variety, there will be a class for Blacks and one for Whites and any other colour. I have seen one or two quite characteristic Buff Faverolles, so this latter class promises to be a strong one. A very long list of special prizes will be offered in addition to the usual liberal prize-money; and with the popular hon. secretary of the club (Mr. Thos. C. Byrne, Beech Hill, Wylde Green, Birmingham) officiating as judge, the 1910 Club Show should be a record one. Mr. Byrne, by the way, confines his fancy to Faverolles, which he has consistently bred for twelve or thirteen years, and has more or less right through been among the best. This year his birds have certainly done some winning. Of the prizes already gained may be mentioned firsts, seconds, or thirds scored at the Bath and West, the Worcester County, the Royal (Liverpool), the Sussex County, the Great Yorkshire (Leeds), Tunbridge Wells, and Birkenhead. The cockerels which Mr. Byrne has bred this season show great promise, but, unfortunately, from an exhibition standpoint, many of them are rather late hatched. There is no question that the Faverolles is gaining popularity, and this is evidence from the classes provided compared with those put on at the shows only a few years back. "Everyone who has kept Faverolles cannot but admit the excellent table properties of the breed," writes Mr. Byrne in a recent letter to me. "This, to my mind, is a great thing. A mismarked bird or one in any way useless for the show-pen can soon be made into a first-class table-fowl. And, talking of table-birds, I consider that Faverolles hens with an Indian Game cock make the best and quickest growing table-chickens there are." In addition to the Salmon variety, Mr. Byrne tells me that he has bred some nice Whites, but in his opinion they will never supersede the Salmon.

THE ANCONA.

Since Mr. Thomas Layberry has been acting as hon. secretary of the Ancona Club he has not been allowing grass to grow under his feet; and it is pleasing to note that his efforts to keep the breed well to the fore are being backed by members of the club. The club is doing much in guaranteeing classes and offering specials at various shows throughout the country, and it is to be hoped that fanciers of Anconas who have not yet joined the club will come forward and help to swell its ranks. As the hon. secretary truly points out, the five shillings subscription should prove a good investment for all who fancy the stylish, beautiful, and useful Ancona. Mr. Layberry's address is 11C, Horninglow Street, Burton-on-Trent.

VARIETY BANTAMS.

Fanciers of Variety Bantams will be pleased to hear that classes for their favourites will be provided at Kendal Game Show, which is to be held on November 2 and 3, and they are indebted to the president of the show, Mr. Dan Clayton, of Menston-in-Wharfedale, for the addition. Already this good all-round sportsman and fancier has guaranteed at least a dozen classes, and it remains for interested fanciers to show their appreciation of Mr. Clayton's generosity by supporting the fixture in a liberal manner. The prize-money will be 20s., first; 10s., second; and 5s., third, for an entrance fee of 3s. 6d. Mr. J. C. Parker, of 11,

Cliff Terrace, is the secretary of the Kendal Game Show, and he will be glad to hear from anyone who may feel disposed to support the scheme by guaranteeing further classes or giving specials for competition at the event.

SALE OF THE LATE MR. PORRITT'S POULTRY.

One of the biggest sales of poultry held during recent years, possibly the biggest since the late Mr. Joseph Partington's stock was dispersed on July 17, 1901, was held on the 10th ult., when the well-known collection of the late Mr. Porritt came under the hammer. As is usual when a renowned fancier's yard is put up to auction, there was a good attendance; and among those who were "on business bent" were many exhibitors of repute. The stud had been got together some three or four years since at considerable expense, but it cannot be said that there was anything spirited about the bidding, and on the whole the prices realised were somewhat disappointing. The highest bid was £20 for a 1908 Black Orpington hen, winner of many prizes, which went to the famous St. Leonard's yards. A Buff Orpington cock, which had won first prizes at Bromsgrove, Cardigan, Otley, and Prestwich, and on two occasions the Poultry Club Orpington (breed) Cup, was knocked down for £11 10s., and an unshown cockerel for £10, yet the 1909 cock, which stood first at Lancaster, went for £3. A hen which has to its credit third prize at Crystal Palace and several other wins fetched £8 5s., yet a 1909 hen, winner of first prizes at the Royal Lancashire, Otley, and other events, changed hands for 30s. The Black Orpingtons sold for rather better figures, although a 1909 cock, first Dairy, Altrincham, Lancaster, and Galgate, and the Poultry Club Cup on three occasions, realised only £11 10s.; and prices for other cocks varied down to 22s. Hens went from £8 to 10s., and a couple of cockerels sold for £8 10s. and £6 10s. The best White hen was knocked down for £11, and the highest bid for a cock which won first at Birmingham was £6. There was not a great call for the Plymouth Rocks. The first Morecambe, &c., Barred hen went for £7, but others were as low as 21s.; and 17s. was the sum paid for the fourth Dairy cock. In Buffs the best cock, winner of firsts at Lancaster and Morecambe and second at the Palace, was disposed of for £6, but the figure for the first Club Show 1909 hen was 21s. Prices were not much better for Black Wyandottes, the chief being £9 10s. for the cock which won firsts at a Club Show and several other events, and £6 for the Crystal Palace and Club Show cock. The cheapest of the lot, however, were the Columbian Wyandottes, the first Crystal Palace, &c., cock for 24s., the second Club Show 1909 cock for 6s., and the first Crystal Palace and Club Show hen for £3 10s.—poor prices these for champions! The dwelling-house and the poultry establishment, I understand, have been purchased by Miss Storey, of Kendal.

OCTOBER SHOWS.

Foremost among the poultry shows for the present month is the Dairy at Islington on the 4th, 5th, 6th, and 7th, of which I hope to give a brief *résumé* in the next issue. During the same week there will be three other shows, while in the following week some half-dozen are announced, the chief,

perhaps, being at Dumfries on the 11th and 12th. Eastbourne Show comes off on the 19th and 20th, while from the 18th to the 22nd those announced to take place include Dunmow, Essex; Dufton, Westmorland; King's Lynn, Norfolk; Northampton; Kirkby Stephen, Westmorland; Bedale, Yorkshire; Lanercost, Cumberland; Loughborough, Leicestershire; and Motherwell, Lanark. Manchester opens the ball during the last week of the month, and clashing with it are events at Stratford-on-Avon, Bristol, Sunbury-on-Thames, Bideford, Treharris, Collingham, Dublin, and Harrington. Many important events are already advertised for November, and among them are Kendal (Game and Variety Bantams) and Chester, 2nd and 3rd; Barnstaple, 8th and 9th; Carlisle, 10th; Morecambe, 11th; Crystal Palace, 15th, 16th, and 17th; Cardiff, 16th and 17th; Horsham, 17th; Newport, Mon. (Viscount Tredegar's), 22nd and 23rd; Reading (Ladies' Poultry Club), 23rd; Birmingham, 26th to 30th; while both Redhill and Portsmouth open on November 30.

THE OLD ENGLISH GAME FOWL. THE PARTRIDGE HEN.

THE colours of Old English Game, as now recognised in the exhibition pen, are more numerous than those of any other breed of



PARTRIDGE, OLD ENGLISH GAME HEN.

face to face with anything like a representative display of the breed. In Black-Reds alone there are some half-dozen or so different varieties or sub-varieties, and thus there are Black-Breasted Reds with white legs, Black-Breasted Reds with yellow legs, Black-Breasted Reds with dark, willow, or carp legs, the true Black-Reds, and Black-Breasted Dark Reds. These names, it may be mentioned, are given to the male birds, since when the females are considered they are known as Wheatens, Clays, or Partridges. And that is just the reason why, when classes are scheduled for Black-Breasted Red Old English Game, the varieties or colours of female permissible to compete in the hen class are distinctly specified, and the class is not merely indicated by "ditto hen." At times Clays and Wheatens compete as one class and Partridges as another.

In the Black-Breasted Light Red with yellow legs, the cock has a perfectly black breast and bright and glossy top colours, with clearly defined blue-black wing bars, while the hen to match is of a Partridge colour for the show-pen, the Wheaten hen being bred in occasionally to keep up the bright colours of the cockerel strain. As a rule, the variety with the dark, willow, or carp legs breeds particularly true to colour, the hens being of a sound Partridge, free from what is termed "foxiness" or "rust" on the sides of the wings, and favoured more in the Southern and Midland counties of England than in the North, where the white and yellow legged birds are more esteemed. To match a cock of the true Black-Red—the variety with only two colours in its composition, black and red—the hen is of a very dark Partridge colour, with bright red, coppery hackle, and brick-breasted.

It will be seen, then, that there is really no fixed colour for the Partridge Old English Game hen, since the fashionable or show varieties of the male are of different hues, ranging from the darkest red to the brightest orange, which must, of course, affect the colour of the females. In the latest edition of the Poultry Club Standards, the plumage of the hen under Black-Breasted Red is given as Partridge back and wings, golden-red hackle streaked with black, shaded salmon breast and thighs, and black tail shaded with brown. Colour, after all, is not a strong point, since it is given eight of a possible one hundred in the Standard for Old English Game.

THE SELECTION AND TREATMENT OF STOCK.

FROM the time of the hatching season to the period when it is necessary to make a final selection of stock, the breeder has in some measure to contend with conflicting interests. Unless the circumstances are exceptional, he has to face the question of available room for the adequate maintenance of a healthy growth and development in the running chickens, and in consequence of a very usual necessity he is tempted to thin his flocks as early and as closely as possible. On the other hand this often undue narrowing very materially limits the opportunities of choice in making the ultimate selection. In the result the issue is with many in the nature of pure speculation. If the birds are overcrowded they will not grow out, and in making an early choice

fowl; hence it is not surprising that a novice fancier is apt to get bewildered when brought

there is the risk of rejecting the best; but those who have been able to avoid the evils attending the close thinning of the ranks early in the season may now make their selection with a greater degree of certainty.

For any purpose of production, whether it be for breeding or for the laying of table-eggs, the first essential is stamina in the stock. It is supposed by some that the system of strain-making for egg-production must of necessity result in degeneracy, but as a matter of fact it is not so. Stamina or loss of stamina depends upon how the breeding is managed, and although the methods employed have in some instances prevented the perpetuation of a strain of layers that had approached a high level of production, it is a matter of experience—on the other hand—that the best layers are the birds that are also characterised by a healthy activity and a sound constitution. It is, of course, even more obvious that the maintenance of vitality is a primary necessity in chicken-breeding, so that for either purpose stamina is a chief requisite—but, naturally, all weakly and degenerate stock will have been cleared out long before the time of the final selection. It is better to sacrifice every fowl on the place than to retain degenerate stock for any purpose, and the advice that is sometimes given relative to the improvement of such birds by the introduction of fresh blood is as uneconomical in the end as it is unsound in its very inception.

Given the necessary soundness of constitution, the selection of laying stock must be guided as far as possible by pedigree and laying records, but where such clues to possibilities do not exist, or are not considered reliable evidence, the type may be taken as some indication of probable capabilities—remembering always that there is no sure guide to prolificacy, and that in all strains there is a proportion of disappointing individuals. In the breeding stock type is a main consideration, next to fitness for use in mating, whether the object be the production of typical specimens of a given breed or the breeding of chickens that shall approximate to the wider description of "table type"—in one or other of its sub-divisions.

Concurrently with these and kindred considerations regarding the young or renewal stock, there are several matters affecting the well-being and profitableness of the older birds which require attention. The selection of the latter from among the best of last season's stock was naturally an earlier process, and it may be supposed that the adult birds now running about have been thought to be worth keeping, in which case the owner—in the spirit of that form of gratitude which is a lively sense of favours to come—must not now neglect the fowls whose efficiency has been proved, and of which fresh proof is required in the coming season. Nevertheless, there is a by no means uncommon tendency to ignore the requirements of the past profit-makers until a further return is expected, and the poultryman himself is a frequent contributor to his own disappointment and loss in this connection. This neglect of the older stock may, and usually does, operate in one of two and opposite directions—the birds being over or underfed. In this respect farm poultry-keepers are the worst offenders, in that they so often leave the birds to look after themselves. The inevitable consequence of such a policy is that fatness or leanness may result according to the situation of the

flock relative to the opportunities of the surroundings.

In order to maintain the older stock in a condition suitable for the meeting of future requirements, there must be no relaxation of attention at any season, and if anything there is need for greater care when the year is drawing to its close. The proper treatment of these birds involves very careful feeding, and the regulation of the quality and quantity of food must be relative to that which they are able to pick up for themselves. The opportunities of the harvest time are very different from those of the succeeding months, an obvious fact although curiously ignored by those who are in the very best position to realise the truth; and this remark applies with equal force to the keepers of all sorts of feathered stock, be they breeders of chickens, turkeys, ducks, or geese. It is not because the goose or the turkey will not lay this side of Christmas that we can afford to leave them to their own devices in the interval, and it is equally opposed to the economy of production to suppose that we can get the ducks and hens into a proper laying or breeding condition at short notice.

SOME FEEDING PROBLEMS.

IX.—RATIONS.

(Concluded from page 643.)

WHEN compounding a feeding ration, it is necessary to take into account the conditions under which the birds are living and the purpose for which they are kept. Winter and summer feeding must vary, since the requirement on the part of the body for heat during the colder part of the year is considerably greater than during warm weather. Again, special feeding must be given to growing chickens, laying birds, and those at rest, as well as for fattening poultry. As can be understood, it is impossible for us to give all of the various mixtures that can be made from the usual foods employed, but we mention a few as examples, and readers can take them as a basis for arranging their own special feeding mixtures.

MAINTENANCE.

It has been stated that for birds weighing from 5lb. to 7lb. the following weights of each digestible nutrient are required per day for each 100lb. live weight:

2.7lb.	total dry matter
0.1 "	ash
0.4 "	protein
2.0 "	carbohydrates
0.2 "	fat

A suitable mixture for this purpose can be made of

1lb.	maize meal
$\frac{1}{2}$ "	middlings
2 "	ground oats
$\frac{1}{2}$ "	clover hay
$\frac{1}{4}$ "	cut bone

This mixture will conform to the above, except that there is a slight excess of ash, but this will cause no evil effects.

As an illustration of a good ration for laying hens weighing from 5lb. to 8lb., that contains a

supply of the necessary nutrients in proper proportion, we would suggest:

1 $\frac{3}{4}$ lb. maize meal
1 .. wheat meal
 $\frac{1}{2}$.. buckwheat meal
 $\frac{1}{2}$.. meat
 $\frac{2}{3}$.. cut bone
 $\frac{3}{4}$.. green clover

The variety of rations that can be given is endless. We have purposely given mixtures containing a number of ingredients, but naturally more simple foods can be given.

For birds weighing from 3lb. to 5lb. during a period of rest the following will be used:

3lb. barley meal
2 .. middlings
 $\frac{1}{4}$.. cut bone

The requirements of the rapidly-growing chickens and young birds are constantly changing, hence it is difficult to give a satisfactory average ration for any length of time. It will be remembered that we gave the table of the necessary constituents by weight for every two weeks up to twelve weeks, showing how that commencing with a nutrient ratio of 1:4.1 for the first two weeks, this should be narrowed for the next six weeks and then broadened. This alteration can be brought about by increasing and decreasing the amount of animal food. It is a very good plan to feed this food in hoppers, allowing the birds to consume as much as they will, for in this way we believe the natural requirements of the body will be best satisfied. A good chick feed for the first two weeks is composed of:

21lb. broken wheat
14 .. dari
14 .. canary seed
14 .. broken maize
14 .. buckwheat
7 .. millet
7 .. pinhead oatmeal
7 .. rice
7 .. meat
7 .. grit

112lb.

If the wet mash system of feeding is adopted, 85lb. of Spratt's biscuit meal and 15lb. of Crissel (granulated meat) will form a good mixture.

We consider that with chicken feeding too much reliance should not be placed on the exact quantity mentioned as being required, but that the birds should be allowed to eat as much as they will.

As an example of a good food for ducklings during the period from two to four weeks old the following is given:

8lb. maize meal
5 .. middlings
4 .. meat
2 .. cut bone

With an allowance of green food.

The above rations are only given as examples, so that poultry-keepers may take them as a basis for compounding their own mixture. In feeding it is sometimes possible to utilise foods that are not usually employed for feeding poultry, and whenever they can be obtained reasonably priced they should be used.

NOTES FROM ABROAD.

British Columbia.

A proposal has been made to establish a British Columbia Poultry Association on broad lines. The poultry industry is growing by leaps and bounds in the province, and the need for such a combination is evident.

Poultry Culture in Bermuda.

Recently a Bermuda Poultry Organisation Society has been formed, with the object of increasing the production of eggs and poultry on these western islands, where, up to the present, native supplies have had to be supplemented by American, to provide for the needs of the inhabitants. At a lecture, given under the auspices of the above Society, by Dr. Nicker, who has had considerable experience in poultry-breeding in the States, his Excellency the Governor, Lieut.-General Walter Kitcheener, was present, and made an interesting speech in support. Dr. Nicker gave the results of his own experience, and strongly urged the White Plymouth Rock as a breed suited to Bermuda, also advocating the use of trap-nests and the hopper system of feeding.

Fancy v. Utility in New Zealand.

In the last issue to hand of the *New Zealand Poultry Journal* we find Mr. Kennedy, a well-known breeder of Silver Wyandottes, making statements which are worthy of consideration:

What spoils show birds is the aim of the fancier to catch the eye of the judge. To do this you must have the bird on the point of laying. If she shows signs of laying too soon before the show you must hold her back and seek to repress the egg development. For the next show the pullet is put off laying for, say, a week, then she is brought on again, and so on until the bird's ovaries are so stultified that they become useless. This constant interruption in the development of the egg-producing functions causes them to be stunted, and they can never again recover their potency. These frequent interruptions have been transmitted to succeeding generations until the fanciers' birds have become practically useless as layers. I see no reason why the egg-laying qualities of show stock should not be retained. I have bred my own stock and captured some of the best prizes in the shows and produced from the same stock the finest laying Silver Wyandottes in Australasia. I suppose there are many who will disagree with me, but that is my experience, and I see no reason why the fanciers' stock should not be profitable as egg-layers as well as show birds.

Which Leg?

The *Minneapolis Journal* says:

"Always ask for the right leg of a chicken or turkey," said a chef. "If the left leg is offered you refuse it. It will be tough and stringy."

"You see, these birds nearly always roost on one leg, the left. Hence that leg becomes very muscular. The sinews are like steel. It is an excellent leg from the athletic, but a vile one from the culinary point of view."

"But the favoured right leg remains tender and juicy. Therefore, as the advertisements say, 'ask for and insist on getting the right leg.'"

Pity we cannot breed fowls with an extra right leg!

"S. A. F. F. and U. P. Journal."

A title is said to mean much, but whether elongation is desirable is a moot point. The above accumulation of letters denotes "South African Feathered Fancy and Utility Poultry Journal," of which No. 1 is to hand. With this is incorporated "S. A. Feathers" and "S. A. Feathered Life and Fanciers' Magazine," and it is published fortnightly at Capetown. We wish for our contemporary a success equal to the length of its name.

Eggs by Weight.

The sale of eggs by weight has often been advocated, and would simplify matters considerably, unless quality took an inferior position. The Commissioner of Weights and Measures for New York has announced that at an early date eggs must be sold by weight. We shall watch the operation of this regulation with interest.

Turkeys and Reptiles.

Mons. Le Fort, of the French Société Nationale d'Acclimatation, states that the wild turkeys of America are most destructive to vipers and other smaller reptiles, and that he has found these entirely killed off where domestic turkeys are kept.

Shell-less Eggs.

A correspondent of *Jardins et Basses-Cours* recommends the following mixtures to be given once per day to hens laying eggs without shells.

Cooked rice	1 kilo (2½lbs.)
Bran	1 ditto
Oyster shells, broken fine ...	300 grammes (10½oz.)
Or slaked lime	250 ditto
Cooked blood	300 ditto

A Specialist Breed Journal.

The *National Barred Rock Journal* has entered upon its second volume. The Barred Plymouth Rock is probably the most popular breed in the United States, but it is remarkable that a monthly paper devoted to one variety of one breed should find sufficient support. Yet it is well produced, essentially readable, and "live." The publisher is Mr. W. L. Robinson, of Union City, Michigan.

Size of Leghorns.

Mr. L. E. Keyser, writing in the *Western Poultry Journal*, attempts to answer the question, "Do We Want Dual Purpose Leghorns?" and says that every ounce we add to the weight of our birds adds to the cost of production of every dozen eggs they lay. A large bird requires more feed to maintain the larger body, and more feed to grow the egg than a small bird." His view is that the most profitable Leghorn hen will weigh under four pounds.

Egg Circles in Canada.

Combined marketing of eggs is the order of the day. In Ontario a large poultry dealer is establishing what are called egg circles, by means of

which the supply is organised and producers are made responsible for quality and freshness. Although under private control, to some extent it is co-operative. The results are said to be very marked. When farmers are paid less for low quality eggs and have stale or bad ones returned, they will speedily abandon antiquated methods.

An Official View in Cape Colony.

Mr. P. J. du Toit, Under-Secretary for Agriculture in Cape Colony, thus deals with poultry topics in his annual review:

Poultry farming is at present relatively in the same position as cattle-raising was before creameries were established. The marketing of eggs is made incidental to improving the stock instead of being made the chief aim and incentive of the latter. As has been the case in other countries, the systematic collection and sale of eggs must precede poultry farming on improved lines on an extensive scale. Here again dairying will come to our aid; the conveyance of milk and cream to dairies and creameries will facilitate such collection and distribution. All honour and praise to the enthusiasts who introduce and breed high-class stock year in and year out and advocate the keeping of pure-breds and of the best laying strains. Will dairy farmers and creamery managers come to their assistance?"

POULTRY-BREEDING IN SOUTH AUSTRALIA.

By D. F. LAURIE,

Adelaide, South Australia.

THE history of poultry-breeding in the State of South Australia dates back sixty or seventy years. Soon after the foundation of the (then) colony, and with some of the first settlers, there arrived pure-bred poultry brought from England. Regular exhibitions of poultry began about forty years ago, and progressed more or less until about twenty years ago, when a strong movement took place and has since continued. Numerous regards importations from America, Plymouth Rocks time to time, but the adjoining States has been the chief source from which fresh blood has been drawn.

There have been and still are in Australia many ardent fanciers who do not begrudge the money necessary to secure noted English winners, but there is reason for believing that in the future our breeders will show less inclination to send to England for fresh blood and prominent winners except in certain breeds. The reason for this is that our breeders do not approve the type of many breeds now fashionable in England. As regards importations from America, Plymouth Rocks (Barred, Buff, and White) and the Wyandottes (Partridge, White, Silver-pencilled, and Gold-laced) have been imported into the other States in considerable numbers, and selected draughts of the progeny resulting from these importations have been added to our flocks. The popular exhibition breeds at present are:

Orpingtons—Black, Buff, and White.
Wyandottes—Silver, White, Gold; and other varieties to a lesser degree.
Plymouth Rocks—the American Barred.
Dorkings—Coloured and Silver-grey.
Faverolles.
Langshans.
Old English Game, Indian Game, British Game; Malays, for which the State is famous.
Leghorns—White, Black, Brown, and Buff.
Minorcas, and a fair sprinkling of other light breeds.

Ducks—Pekin, Rouen, Aylesbury, and Indian Runner.

As regards breeding, the best efforts are centred in Orpingtons, Wyandottes, Rocks, Old English Game, and White Leghorns. We have numerous skilled breeders and exhibitors, and many of our best specimens are shown in excellent style.

During recent years far more attention has been paid to utility or commercial breeds than to mere exhibition stock. This is due to the action of the State Government in fostering poultry-breeding as a national industry. The commercial sections of our poultry shows appeal strongly to the utilitarian instincts of our poultry-breeders.

During the last ten years or so, a number of our breeders have paid special attention to developing what are termed utility strains of various breeds. We here take quite a different view from that of the English breeders. There the culls of any breed are disposed

will be remembered that about this period the Leghorn was fairly popular in England, and the prevailing type as seen at shows did not differ materially from the originals, which also came from America. It appears, then, that our first draughts of blood were of American origin, and, as far as I know, we never had the type known throughout Europe as the Italian fowl. Later on fresh additions were made from time to time and in every case from England. There, as we know, the breeders had resorted to crosses to increase the size, &c. Hens, as at first imported, weighed $3\frac{1}{2}$ lb. to $4\frac{1}{2}$ lb., while occasional hens among the later importations weighed 6 lb., 7 lb., or 8 lb. The blend resulted in a rather large type, square and heavy. Seven or eight years ago fresh blood came from America to Australia; and of the strains imported those of Messrs. Van Dreser and Wyckoff were most favoured although their lack of size, indifferent head points, and evident want of stamina



BREEDING-YARDS AT ROSEWORTHY, SOUTH AUSTRALIA.

of at low prices to serve as utility fowls. In South Australia we place such birds in their proper category; we call them culls, and consign them to the kitchen.

Our utility strains are bred as carefully as, and even more so in many respects than, our exhibition strains. The difference is this—our breeders select for the constant improvement of utility points in the first place, and while maintaining type, allow the less important external characteristics to take a less prominent position. While this good work is going on with many breeds there is no doubt that main results are to be witnessed in the White Leghorn as developed for egg-production.

As our White Leghorns have attracted world-wide attention to the excellent scores made by representative pens in public competition, and under strict official supervision, a brief history of their origin may be of interest. About twenty-five years ago several importations into Australia were made; the birds hailed from America. These birds were slightly larger and more robust than specimens imported a few years ago. It

were viewed with suspicion. The introduction of this new draught of blood was productive of wonderful results, the strains “nicked” and the resulting fowl is as follows:

SIZE.—Perhaps not more than $\frac{1}{2}$ lb. or $\frac{3}{4}$ lb. heavier on the average in both sexes as compared with the birds imported from America.

TYPE.—Practically that of the American, retaining the good shoulder and length of leg, but deeper behind, thus showing capacity.

STAMINA AND GENERAL APPEARANCE.—Hardy, robust, and bold. The head points are better developed, although kept in strict moderation. These birds are just as active, and on as fine lines as are their smaller fragile-looking American relatives. The hens are smart, active, busy, scratching cacklers, and the male birds are as full of fire and life as could be wished; they are very game, not to say pugnacious.

The success of the fresh infusion of American blood, as regards laying set the ball rolling, and the new type headed the list. Our leading breeders select vigorously

and adopt what is known as "Line" or "Pedigree" breeding exclusively. As the pullets grow they are subjected to constant and vigorous culling, with the result that the final selection represents the judgment of that particular breeder.

TESTING.—While a few still adhere to the old method of trap-nesting, the advanced breeders pen the pullets singly in small but convenient pens. Here they undergo the ordeal, the result of which decides whether or not they are to be retained as breeders. As a rule these pullets are not unduly forced, they are supplied with suitable foods in variety but are not pampered. Few breeders would attach much value to a pullet with a 200-egg score for the year; she must lay 220 to 240 eggs to cause any enthusiasm, and above that yield she becomes precious. Those whose test is satisfactory are specially distinguished by leg bands and numbers, and particulars are carefully recorded.

THE MALE BIRD.—Our breeders attach as much importance to the ancestry of the cockerel as to that of the pullet. The selected stud bird has been, up to the present time, exemplifying the doctrine of the survival of the fittest. He has, with his mates, first of all to pass muster as to type, carriage, general style, and vigour. After that he holds his own in the daily battles, who crows loudest and most frequently and shows his strength and vigour in every detail becomes the apple of the breeder's eye. His pedigree is accurately known, and much thought is given to the selection of his mates from among the best second-season tested females.

SOME ADDITIONAL POINTS.—Our breeders know that mere selection based on individual egg-production does not fulfil all requirements. In pedigree breeding, where you are endeavouring to concentrate all desirable points and characteristics, you must rigorously guard against the concentration of undesirable points. What are known as latent defects show themselves; we find reversion to some point or other which must be eliminated. Many a pro-

be sacrificed, but to the patient and skilled breeders nothing is impossible.

This question seems to trouble our friends over the water more than it does us. There is not the shadow of a doubt that the adoption of this method of rigorous selection and systematic pedigree breeding must result as follows:

1. In the production of stud birds of great laying power.

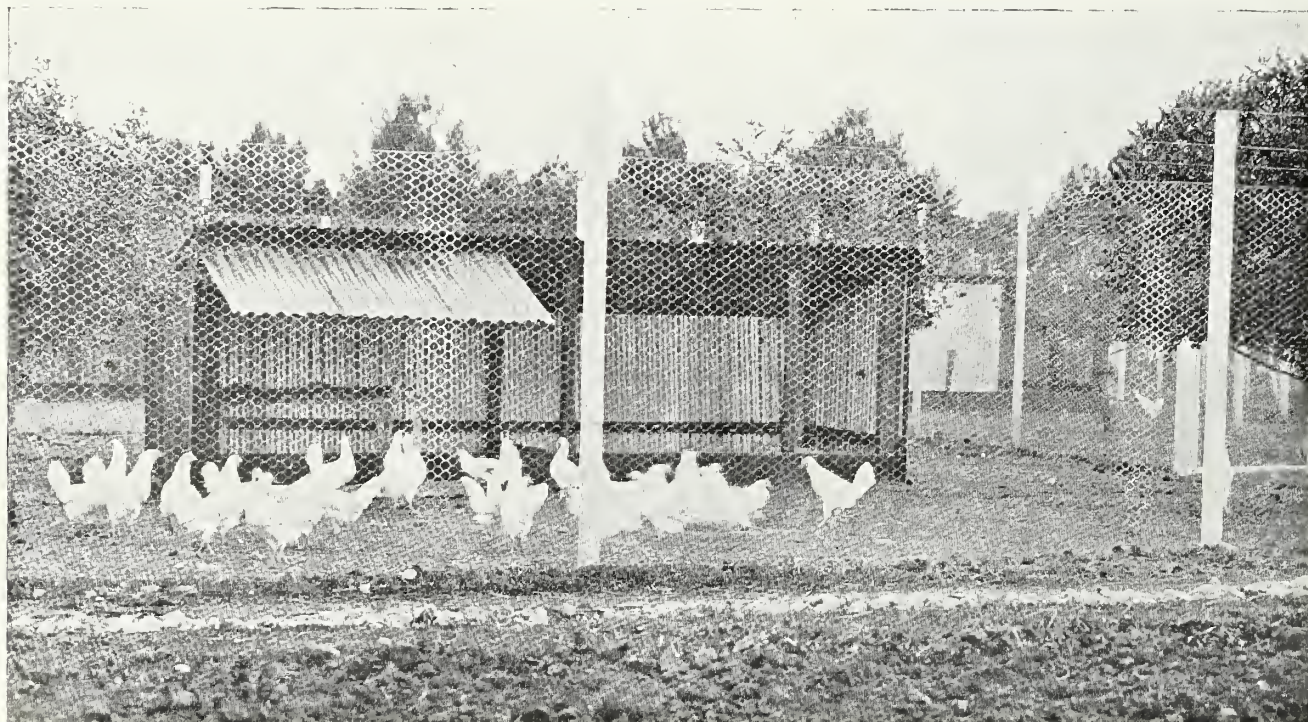
2. In considerably raising the average egg-production of any flocks of laying fowls so bred.

3. By this process alone can a high level of egg-production be maintained.

4. The adoption of the methods indicated must result in the elimination of undesirable characteristics and hereditary tendencies, and finally result in robust constitution and ability to assimilate the food necessary for the production of large egg yields. Toughness of fibre and ability to stand the shock and strain of constant egg-production can be acquired by each method alone. We read the opinions of those who follow sheep-like and we hear sometimes their sympathetic groans. Nevertheless the fact remains that the progeny of great layers, if thus selected, are vastly superior in constitution, fecundity, and general breeding powers to the half-wild farm hen. The whole question is one for the breeder. If he is incompetent he blames the hen and talks darkly of Nature and her laws (which, by the way, he rarely studies). Look at the history of breeds of other classes of stock; success in every case is due to the breeder, the man behind the gun! Use your brains, develop keen powers of observation, discard any bird in the slightest degree unsatisfactory, and success all along the line must be the result.

I prefer single testing to the use of trap-nesting—*i.e.*, each pullet or hen in a separate compartment for the whole term of testing with no possibility of errors or mistakes.

I am absolutely certain that the only way to get a



A POPULAR TYPE OF HOUSE IN USE IN SOUTH AUSTRALIA.

missing pullet is discarded because she shows some weak point or undesirable character. Where it is necessary to graft on some desired point the process is slow and intricate. In improving the one point others must not

flock with a high average egg-production is as follows:

- (a) By testing all pullets during the first year before they are bred from.

- (b) Selecting such candidates for testing by com-

parison—i.e., by outward signs, such as general character, activity, fineness of head, structure, &c.

(c) Rigid rejection of inferior specimens and those showing any signs of trouble in organs of reproduction, broodiness in non-sitters, &c.

If we use as our basis a strain of birds above the average in egg-production I am certain we can by careful selection always keep near the highest point.

Out of one hundred first-class layers there would not be more than perhaps thirty really fit for breeding and perpetuating high-class layers. You must line breed all the time. As regards the statement that egg-production by a fowl is no indication of that of her pullets, I presume this refers to line-bred birds, because surely no one would be fool enough to mate up an unknown male bird.

Every careful breeder in Australia can give ample proof that the good hens breed good pullets when line bred, but there is reason to believe that the production of eggs may vary slightly in succeeding generations. Black Orpingtons and Silver Wyandottes have had special attention in Australia, and a long course of selective breeding has resulted in many strains of high-class layers. Those strains always originate in a good layer. The foolish method of introducing fresh blood is, I am sure, answerable for many failures in other parts of the world.

Many old breeders say "Given the breeding, the ultimate results depend upon the feeder." This is practically true. Doubtless our climatic conditions are very favourable, but at the same time we have our good feeders and our poor feeders whose results differ so markedly. I often think that much of the food that is recommended by writers not in Australia cannot be suitable even in the country where its use is recommended. The methods of feeding I have strenuously advocated for the past twenty years are as follows:

CHICKENS.—Fast twenty-four to thirty hours at least after hatching. First feed coarse sand; after that a mixture of cracked grain fed in litter where the little fellows must scratch and work hard for a living, and so for a month without mash or soft food. After that period a little mash made of various cereals ground and mixed. Here wheat is a staple, to which I add hulled oats, maize, peas, and occasionally millet and canary. Clean water, grit, small charcoal, and plenty of scratching material always. Of cut green food they will eat a lot and it pays to give it to them. Do not force them if intended for stock birds or layers. I am not dealing with market birds. The dry mash does not appeal to me and it is not suited to our dry climate. I prefer whole grain. For mash for egg-production I prefer a light feed in the morning, fed to the minute. This consists of pollard two parts, wheat bran one part, to which add of lucerne (alfalfa) chaff steamed, or cut green food, at least a third by bulk. Mix this to a crumbly state with hot soup. The mixing is of the utmost importance, do it carefully and well. At mid-day the birds generally have a supply of cut green food, of which lucerne (alfalfa) forms the chief part, together with cabbage, kale, green barley, &c., according to the season.

The evening meal is generally wheat, but in the winter occasional recourse is had to peas and maize (corn). At Roseworthy I seldom use oats for adults, but at Kybybolite, in the south-east, that grain is used, especially that variety known as the skinless oat, an excellent poultry food. Shell grit and charcoal are always provided. The yards are small, the houses are open-fronted with scratching-shed for use in wet days. The whole floor space of the yards is occupied with straw litter about six to nine inches deep. In this the grain is scattered and it keeps the birds busy all day. The mash is placed in an earthenware dish and another is provided for drinking water which is re-

newed twice a day in winter and three or four times a day in summer.

I consider that careful and correct feeding is of the utmost importance. Slipshod so-called labour-saving devices generally tend to sickness and loss. Fowls will not thrive and lay unless properly fed. No spices, peppers, or forcing foods of any sort are allowed to be fed, nor are they necessary. Cut green bone is not used, as, although excellent in cool weather, there is great danger of ptomaine poisoning during warm spells. I use meat meal made at the Government Freezing (cold storage) Works; it contains 60 to 70 per cent. of albuminoids. This is used for making the soup in the proportion of $\frac{3}{4}$ lb. for every hundred adults. I hold that highly concentrated foods affect digestion, and that forcing or over-stimulation must have a cumulative and degenerating effect generally.

There have been six laying competitions in South Australia. In the first the average per hen for the twelve months laying was 130 eggs; in the last the average had risen to 190 eggs, and in that now in progress I look for a further improvement. In the 1908-9 laying competition the average yield per pen of 25 pens, each containing six pullets, was 1,250 eggs. The highest score was 1,447 eggs and the lowest 960 eggs. These 150 pullets were the property of 24 different owners and were of various strains. In the competition now in progress at the Roseworthy Poultry Station there are 65 pens of White Leghorns numbering 390 birds, the property of about 60 owners, and they are of various strains. At the end of eight months—that is, beginning April 1 and ending November 30—the total eggs laid numbered 53,625, or an average of 825 per pen, or 137.5 per hen. There are still four months remaining during which time the birds should lay well. At this period the leading pen has laid 1,010 eggs and there are eighteen pens which have laid 900 eggs and over. There are only 49 eggs between the first pen and the sixth, and during the next four months a marvellously close contest should be witnessed. I will state definitely, however, that, as regards laying, a steady improvement is witnessed each year. I am confident that, whatever may be the result outside of Australia, here we shall steadily raise the annual production of our White Leghorns. This will take place through the Government Poultry Station and the stud breeders, who will distribute large numbers of high-class layers yearly. With the average farmer who is steeped in prejudice and ignorance of the correct methods of breeding we may not expect more than an average increase among pure-bred flocks. Naturally the national gain will be in the gradual displacement of the farm mongrel fowl by the commercial pure-bred. This is rapidly taking place. Publicity through the Press and by means of lectures, &c., is gradually showing our country poultry-keepers the advantages of the pure breeds. Here farmers buy from noted breeders and those whose names are constantly before the public as breeders of commercial poultry. The results which make our breeders famous are obtained in officially conducted public competitions. The difference is that the value of the strains is based on actual fact, not upon the dictum of their owners as stated in advertisements. The public actually buys the correct kind of stock. In the old days the buyers depended entirely upon the results of poultry shows, and one can understand the disappointment and losses of persons who, without knowledge, purchased Cochins and Malays as market egg-producers. From a national point of view I consider it is of the utmost importance that the general producer should obtain the proper class of poultry from the best sources. Looked at from a national point of view, the best results can accrue only when the general poultry-breeder is thoroughly educated and at the same time supplied with reliable stock.—*American Breeders' Magazine.*

AMERICAN POULTRY INSTRUCTORS AND INVESTIGATORS.

THE third annual meeting of the International Association of Instructors and Investigators in Poultry Husbandry was held at the Iowa State College, Ames, Iowa, on July 30 and August 1 and 2, and was one of the most successful meetings yet held. The President of the session was Dr. Raymond Pearl. The following were the papers read and addresses given:

Meal Foods and Breeding Stock as they affect the Hatch	Prof. W. R. Graham
New England Incubator Experiments	C. L. Opperman
Moisture and Volatile Salts.....	Prof. F. C. Elford
Report of Committee on Investigation	Dr. P. B. Hadley
Poultry Co-operation and Extension	Prof. N. E. Chapman
Farm Trains and Educational Exhibits	Prof. W. A. Brown
Relation of the International Association of Instructors and Investigators in Poultry Husbandry to the American Poultry Association.....	S. T. Campbell
Report of Committee on Instruction and Outline for Courses in Poultry Husbandry.....	Prof. J. E. Rice
Lectures, Recitations, and Reference Readings.....	W. A. Lippincott
Laboratory, Practice Courses, and Demonstrations	Prof. J. G. Halpin
Report of Committee on Breeding	Prof. J. H. Stoneburn
Report of Committee on Legislation	T. E. Quisenberry
Report of Committee on Bibliography.....	Miss Clara Nixon
Report of Committee on Feeding...	Prof. C. A. Rogers
Poultry Research and Instruction in Europe	Dr. Raymond Pearl
Report of Committee on Diseases	Dr. Geo. B. Morse
Marketing of Eggs	A. G. Philips
Killing, Dressing, and Marketing Poultry	H. C. Pierce

Discussions took place on types of Poultry Houses, Methods of Feeding, So-called Poultry Systems, and Methods of Conducting Examinations.

Professor J. E. Rice, writing on this meeting, says: "Two or three things of considerable importance were accomplished. A little later I will write more in detail with regard to a plan we adopted—namely, to see what could be done to form similar associations in various countries and to unite these organisations in a strong federation. Dr. Pearl, Professor H. C. Pierce, and myself were appointed a committee to prepare constitution and bye-laws to be submitted to leading poultrymen in various countries.

"An important feature of our meeting was the staging of educational exhibits from a number of the poultry departments of the agricultural colleges and experiment stations. These exhibits occupied table and wall space covering at least one hundred and fifty lineal feet. I will send a photograph as soon as the prints are received.

"The Committee on Education presented in its report a suggested outline for a course in poultry husbandry, consisting of sixty-six lectures and thirty-three laboratory exercises, to be used in the agricultural colleges and to be reduced to meet the needs of shorter courses."

THE POULTRY-KEEPER'S OTHER INTERESTS.

A FRENCH GOAT FARM.

By LOUIS JACOT.

AS stated in a previous article, the goat-breeding farms of "Le Moulin de la Madeleine," at Samois-sur-Seine, near Fontainebleau, are situated on the right bank of the Seine, facing the beautiful country residence and outbuildings of the proprietor on the other bank. The goat-houses, to the number of three, are situated in enclosed fields, which are separated into several divisions; one, facing east, is specially reserved for the adult bucks and breeders, these latter being each enclosed in a little paddock to prevent them fighting; another division is reserved for the young weaned kids, the latter being divided according to sex.

I shall attempt to interest my readers by giving them a description of one of the goat-houses, which can be taken as a model. This goat-house has been well thought out, being specially designed by



AN ALPINES DE SAANEM GOAT. [Copyright.]

M. Caucurte himself, and may be said to represent the very last word in comfort and sanitation for goats. The building, which faces east and west, is divided into three parts—namely, the goat stables, the goat keeper's living-rooms, and an open shed used for the purpose of general storage and preparing the goats' food.

THE GOAT-HOUSE.—The interior of the goat-house measurements are 40ft. in length, 18ft. in width, 9ft. 6in. in height. The floor of the building, which is cemented, is sloped at about an angle of ten degrees for the purpose of drainage, the floor itself being raised 20in. above the outside ground to prevent damp. The walls, which are

14in. in thickness, are built of a very porous stone (which is quarried in the neighbourhood), and are cemented for a distance of 4ft. 3in. above the ground. Six double windows serve the purpose of retaining the heat in winter and providing good ventilation; they are 2ft. in height by 3ft. 7in. in length and are placed at a height of about 6ft. 6in. from the ground. Each of the interior windows, which open inward and downward, is

and placed above the goat-house itself, extending the whole width of the building, is a cemented cistern containing about 500 gallons (2,000 litres) of water. The same cistern, by means of pipes, also supplies the second, and more important, goat-house with water. By this means the animals always have water about the temperature of their stables. The cistern is supplied with water from a well, which is pumped up by a gas-engine. A tap,



A FLOCK OF ALPINES DE SAANEM GOATS IN CHARGE OF THEIR SWISS ATTENDANTS. [Copyright.]

fitted with a plate of iron fixed on the sides to prevent a down draught, only allowing the air to enter from the top. The outside windows open like ordinary French windows. The door of the goat-house, which is 4ft. 7in. in width and in two parts, is so constructed that either the top or bottom part can be opened separately. The door faces south and is situated under an overhanging roof. An inclined plane of earth connects the floor of the goat-house with the outside ground.

A corridor 5ft. in width runs the entire length of the building and gives access to twelve loose-boxes. At the end of this corridor a small round window in the door permits the goat-keeper to "keep an eye" on his flock from his living-room. The boxes, which are 6ft. 6in. square, are formed of pine boarding framed with oak, and are high enough to prevent the goats seeing each other. The partitions come down to within one inch of the ground, for the purpose of free drainage of water, which runs into two little channels, placed one each side of the corridor bordering the partition of the boxes and leading to an underground drain. These partitions are 4ft. 3in. in height, with doors opening into the corridor and fitted with catches to keep them open during the absence of the goats. Above the door leading to the goat-keeper's living-rooms

to which can be attached a hose-pipe, is placed in the stable, and allows the boxes to be thoroughly rinsed. The two goat-houses are heated by means of a hot air apparatus placed in one of the rooms of the goat-keeper's dwelling. The ceiling is formed of squares of cork, one-eighth of an inch in thickness, plastered over. There are two ventilation shafts in the ceiling, which renew the air without opening windows or doors. Above the goat stable there is a loft, in the floor of which is a trap-door situated above the corridor of the goat-house, allowing the fodder to be thrown directly into the stable.

The goat-keeper's living-rooms consist of a kitchen, two large rooms with cellar and a shed open to the east, with a root-cutter, chaff-cutter, &c., and tap for preparing food for the animals.

The loft is tiled. Another goat-house is built very much on the same plan and is situated next to the first goat-house. About 300 yards off is a third goat-house with divided stalls, one of them being used as an infirmary.

The meadows and buildings are stocked with over 100 goats and bucks of different breeds.

(1) Alpines de Saanem. Chamoisées de la Gruyère et du Simmenthal.

(2) Murcie (Spain).

(3) Nubie. Zaraïbe.

(4) Syrie (Mambrine).

(5) Nedged (Arabia).

The adult he-goats (bucks) have all been imported, and are entered in the goats' "stud book" of "La Société Nationale d'Acclimatation de France."

M. René Caucurte brings up the kids till three or four months, and after weaning they are sold in France and foreign countries.

I will divide the goats according to the quality of their milk: light milk and fat milk. This point is very useful to know, as the milk changes quality



ONE OF THE NEW GOAT HOUSES. [Copyright.]

with the breed. It is also very important to learn how the goats must be fed.

GOATS' MILK.—The goat's light milk is in every way the most similar to woman's milk; it contains, however, more caseine. It is quite suitable for feeding children, but I advise its dilution with sugar and water from the beginning in a proportion of ten to twenty per cent. To obtain milk as light as possible, feed the animals on four quarts of bran slightly moist and salted, and at a fixed hour morning and evening. Green fodder unmoist, beetroots cut in small bits and sprinkled with bran, also carrots, tree-leaves, and dry clover are all excellent foods.

Light milk is produced by the French or Swiss Alpine breed. In Switzerland, where selecting goats has taken place for years, they have managed to produce different breeds, as regards the coat, without altering the quality of milk. There are the white goat of "Saanem," "la Chamoisée de la Gruyère" and "du Simmenthal," then the goat of "Sundgan," of "Toggemburg," and the pretty variety of "light necks," and the "Schwartzhal" (black neck) with long hair.

We will now speak of fat milk, which has a very high percentage in butter. It varies between 50 and 70 grammes of butter per litre, according to breed and food given (the Alpine breed varies between 25 and 35 grammes). Maizes, beans, dry clover, mashies made of maize meal, bean meal, oat and horse bean meal, bran with a small quantity of linseed meal, and slightly salted, produce a remarkable effect on the growth of the milky suction. This milk, although very rich in butter, is easily digestible, and is just the thing for adults and people suffering from stomach troubles or heart

diseases. It is remarkably good for cheese-making.

The breeds giving this perfect milk are the "Nubie" and the "Murcie," both of which have short hair. In the long-hair breed, we note the "Syrie" (Mambrine-Samar) and the "Maltaise," which has got short hair, too; and, lastly, the "Pyrénées," which still can be found as a pure breed.

There are certain prejudices in France concerning the qualities of goats' milk, which it is desirable to destroy. It is said that horned bucks are not a pure breed and give milk smelling strongly. The horns have no influence whatever on the value of the milk, neither as to quality nor quantity. Further, there are no goats without horns. A goat may be of pure breed and have horns. The hornless goats are generally more appreciated by the breeders; they are, as a rule, less quarrelsome. Hornless goats, which are often met with, are the result of a selection. The early breeds must have had horns, and this is confirmed by the fact that every year all breeders have kids with horns issued from hornless parents. In the same litter one may have a hornless he-kid and a horny she-kid, and *vice versa*.

Some say that white goats give better milk than dark-coloured ones; that is a great mistake, as the goats which have the reputation of being good milkers are rarely white. Another quite false and prevailing opinion is that goats' milk has a nervous influence on children. That is absolutely false; the Swiss mountaineers, the Algerians, Syrians, the Maltese, and others who are fed chiefly on goats' milk, do not seem to be more nervous than their neighbours. All this information has been kindly given to me by M. Caucurte himself.

THE "WHISKY MONEY" AND POULTRY INSTRUCTION.

To the Editor of the ILLUSTRATED POULTRY RECORD.

SIR,—In the article by "Statistician" in your August number, he makes the statement that grants to schools which give poultry instruction do not seriously affect his calculations, and one naturally concludes the conclusions he draws. Although this may possibly be true in certain counties, it certainly is not in the case of Bedfordshire. He credits us with an annual expenditure upon Poultry Instruction of a paltry £10, whereas we have spent annually for many years between £75 and £80, exclusive of any administrative expenses. Our total sum spent upon Agricultural Education has been £1,150, of which only £750 comes from the county—Whisky money and rates combined. Thus poultry-keeping receives some 7 per cent. of the whole and 10 per cent. of the county contribution. Or, according to "Statistician's" Table I., the expenditure per £100 consumed is about eighteenpence, not a mere twopence-halfpenny. The great bulk of our poultry expenditure has been incurred in giving a full practical and theoretical training to young men and women who have gone directly on to the land. I venture to think that you will agree with me in considering that this is more advantageous to the county than sending lecturers into remote country places when the travelling and incidental expenses absorb nearly half the money expended.—Yours, &c.,

EDRIC DRUCE, Principal.

Bedfordshire Agricultural Institute, Ridgmont.



SOME NORTHLANDS TROPHIES.

NORTHLANDS POULTRY FARM.

NORTHLANDS, the residence of Mr. W. Richardson, pre-eminent as a breeder of Buff and White Orpingtons, stands in one of the most favoured positions of Northern Sussex—a plateau some three hundred feet above sea-level, and two hundred above Horsham,



MR. W. RICHARDSON.

the nearest railway station. A pretty tree-bordered road winds upwards for three miles from the latter to the gates of the roomy farmhouse which Mr. Richardson has made his home; and from the front door of the latter one looks northwards across intervening valleys of pasture and plough to where, on the sky-

line, Leith Hill and Box Hill loom, a deep purple-blue, against the summer sky. A charming situation truly, and one where the air, always fresh and clean, seems to catch some of the fragrance of the far-distant sea when the wind blows from that quarter.

And of the house itself, with its spacious rooms, its low-pitched ceilings sloping waywardly from the horizontal, with its oak-beamed dining-room containing the snuggest of ingle-nooks, its old-time porch and many other reminiscences of the farm-life of a past century. Of this house we could write much, and would, were it not that we had set out to describe the farm, plant, and stock that are the *raison d'être* of Northlands. As a matter of fact, the farm begins to claim our attention at the very front door. A few yards away, separated only by a small garden, are pens for ducks and geese. A little way to the right, abutting on the stable-yard, are a group of out-buildings which include an exhibition shed and a food store among others; and immediately at the back of the house is a space utilised by Mrs. Richardson for turkey and other chicks. For one must not omit to mention that Northlands contains not only Mr. Richardson's stock, but that of Mrs. Richardson and Mr. G. M. Bartlet, his stepson, who has done wonderfully well with Black Orpingtons bred on his section of this farm, producing the three champion pullets last year, one of which was claimed for £50. Mr. Richardson himself has been offered up to £75 for a single bird.

The whole estate consists of about 150 acres of pasture, on either side of the road. Mr. Richardson came here from the North in 1895,

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with the avowed object of breeding utility poultry; but two years later a success at the "Dairy" with five pure-bred birds prompted him to enter the Fancy, and since then he has devoted himself primarily to breeding for stock, specialising in Buff and White Orpingtons. The origin of his strain of the latter deserves to be noted. They are literally his own production, being bred from four white sports of Buff Orpingtons, and having no other breed in them. For type, size, and especially colour, they are an exceedingly fine lot. The white is uniformly of that crystal quality, a pure cold white,

which so many breeders aim at getting and so few achieve. The Buffs were bred originally from a few very carefully selected birds, the best

that money could buy, and to-day are always bred from the pick of a large number of birds; the strain has thus been line-bred from the



BREEDING-PENS AT NORTHLANDS.

[Copyright.]



COCKEREL PENS.

[Copyright.]

beginning, fifteen years ago. Both in Buffs and Whites a prominent feature is bigness of bone, the legs being especially prominent for their appearance of massive strength. Nor have the purely utility qualities been neglected. For some years past Mr. Richardson has been successfully represented by pens of birds at the Utility Poultry Club Laying Competitions, and in dead table-poultry classes; which shows that while as a fancier he breeds for stock, as a utility man he has never lost sight of the essentials of success in this

direction. More than most fanciers, he has shown conspicuous ability in combining the two things without injuring either one or the other.

To come to the details of the plant as it appeared on the day of our visit. A large meadow at the back of the house is devoted to chickens, and here we noticed thirteen houses, each provided with a length of wire-netting, with which the house is enclosed during the chickens' first week of residence, to familiarise them with their particular place, and so diminish the chance of their straying to another one. After a week, the fencing is removed, and they have free range and plenty of

For a short period in the summer, the old hens are reduced to one meal, to prevent their getting too fat. We may note, in passing, that Mr. Richardson is no believer in the dry chick food system, and his poultry are fed on soft food from the start. For the breeding-pens, occupied at the time of our visit by stock birds, one must go across the road to a field—bush-drained, in view of the rather heavy character of the soil—well protected on the north side by a stout hedge. Here are thirteen large pens, each provided with a serviceable house, zinc-covered and efficiently ventilated. Nest-boxes are eschewed ;



BUFF ORPINGTON COCK. Bred and owned by W. Richardson.

[Copyright.]

1st and Challenge Cup, Dairy Show (which he won outright); 1st Challenge Cup, Challenge Trophy, and several Specials, International Show, Crystal Palace; 1st and Cup for best Buff Orpington Cockerel and Cup for best Buff Orpington, Birmingham, 1908.

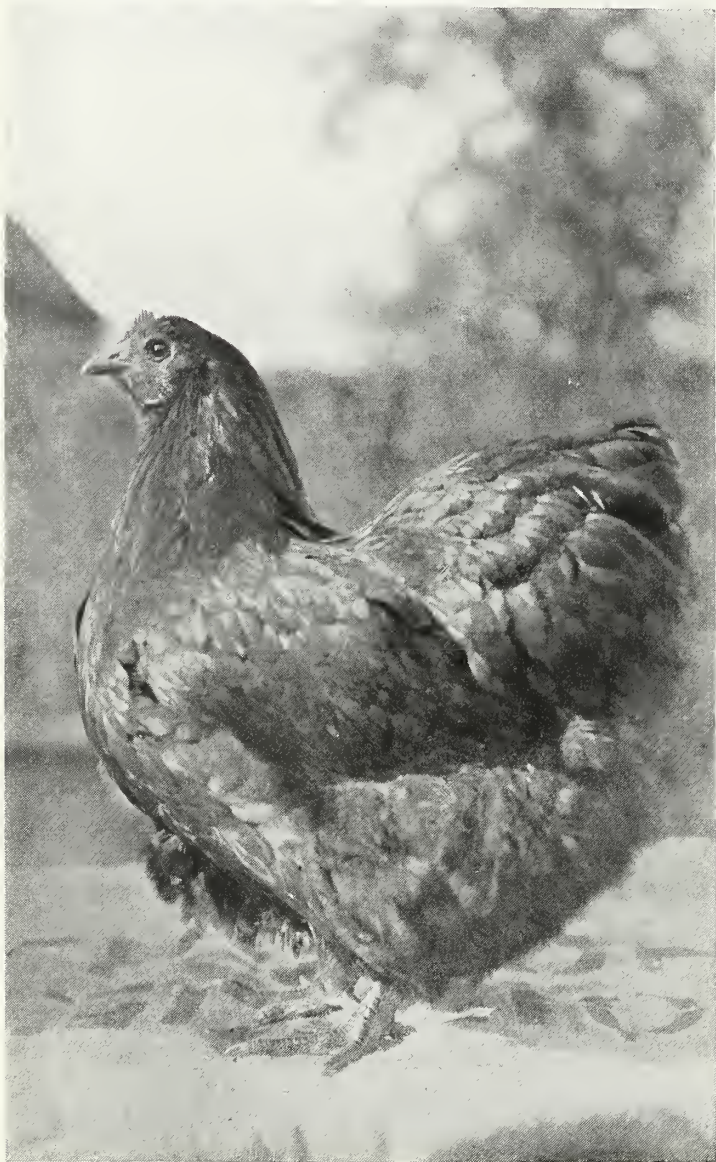
it. This field is effectively sheltered from the prevailing winds by a belt of woodland ; and every other precaution is taken to ensure the chicks getting that good start which is half the battle of life and prosperity. Most of them are artificially hatched ; there are four 100 egg-incubators of a very well-known hot-water type for this purpose. During the coop stage of their existence they are fed from four to five times a day—the latter in severe weather, when the maintenance of bodily heat is so essential. Relegated to the houses on the field, they receive three meals a day ; and this allowance is reduced to two meals when they are old enough to enter the breeding-pens.

and the only trap-nests we saw were some discarded ones lying in a corner of the same field. The absence of accessories, which, if ornamental, he has found by a long experience to be non-essential, is one of the characteristics of Mr. Richardson's plant. A breeder's business, as he remarked to us, is to breed good birds, not to provide a "model" poultry plant for the edification of curious, and, probably unprofitable, sightseers.

Nevertheless, a good deal of careful thought and ingenuity has been lavished upon the portable cockerel-boxes in the adjacent field. These, fifty in all, form a crescent-shaped line along the west and south sides of the field,

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and are an object-lesson in the combination of portability and comfort to anyone thinking of starting poultry-keeping on the larger scale. Built to Mr. Richardson's own design, they are long and low in structure, the upper half of the front wall of the pen section consisting of a shutter of wire-netting, and that of the roosting-place of a solid shutter, both opening



ONE OF MR. BARTLET'S MOST PROMISING
BLACK ORPINGTON PULLETS. [Copyright.]

downwards on a hinge. The advantage of this plan is (1) easy accessibility to either section and (2) plenty of ventilation; ventilation is also provided through both compartments by an opening under the zinc-covered roof. The roosting-place is floored and covered with sawdust litter; a substantial perch, placed in the middle of the pen, affords a refuge to the bird in damp weather. Portability has been carefully studied, and to avoid undue weight the houses are built of comparatively thin planking, which is preserved on the outside by a thin coat of creosote.

These cockerel-boxes housed birds that varied in size a great deal more than in either type and colour. As box after box was opened, and its inmate or inmates brought forth for our inspection, we could not fail to be struck by the evidence they afforded of uniform good quality. There appeared to be no wasters among them; we saw hardly a bird that did not suggest the possibility of successful development, with the moult once over. No one could be more critical of his own birds than Mr. Richardson is; but we repeat that this show of "raw material" was as good and promising as anything on a similar scale that we have seen this year. The vitality of the birds—considering the fact that it was the "dog-days," and the moult had begun—was surprising. A word may be added about the fact of there being "all sizes" even among birds of the same age. Mr. Richardson himself favours as much size and bone as he can get; but some of his breeder-customers believe in something a little less bulky, and it is to satisfy them that the smaller birds are reared.

The exhibition house, an unpretentious but substantial and well-lighted building, containing excellently-designed pens, reminded us of Mr. Richardson's show successes during the past ten years—what time he has not been engaged in judging! The chief of these—and they are a sufficiently imposing list—was the winning of the Dairy Show Challenge Cup for the Best Buff Orpington. The cup passed finally into his possession in 1908, the year of his third victory, the previous occasions of his winning having been in 1904 and 1905; it is shown in our photograph, together with the cock that last won it. But he was winning with Buff Orpingtons as early as 1900, while in 1906 the Coronation Challenge Cup for the best of this breed at Hayward's Heath was awarded to him. When the progeny of his four white sports were exhibited at the Dairy Show as Albions they carried off a first prize, two seconds, and two thirds, and when their name was changed continued to win heavily at the International and the Dairy. Although he has done nothing with Blacks since 1908, when he disposed of his entire stock to Mr. G. M. Bartlet, he won several victories with this variety in previous years. His prizes at the leading shows run into several thousand. It is, in the case of these varieties, a remarkable instance of what can be done by the patient building-up of a strain; for it is Mr. Richardson's justifiable boast that he has exhibited only birds of his own breeding. Not only this, but it is these home-bred birds that he has chiefly sought to sell.

THE CYPHERS INCUBATOR COMPANY.

THE European headquarters of this well-known Transatlantic firm are situated in London, where a branch house was first opened in 1904, and have been since 1906 under the management of Mr. J. B. Ludden. The offices and show-rooms occupy a very convenient position on Finsbury Pavement, within a minute's

trade outside of Europe is directed from the home office in Buffalo.

Improvements in poultry appliances are never without interest to those concerned in production, and our recent visit to the Cyphers premises in London was particularly opportune in this respect, inasmuch as we were enabled to inspect some newly-arrived brooders and fittings, which in important details mark an advance in the history of the firm's manufactures. As these were not even catalogued at the time, they not unnaturally claimed a larger share of our attention than did the older appliances with which we, and presumably a considerable section of our readers, are better

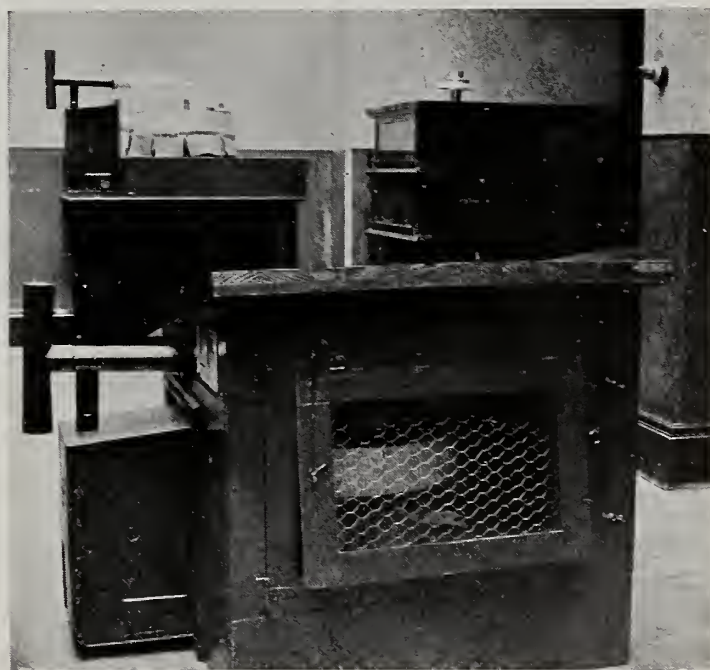


CYPHERS STYLE D INDOOR BROODER.

[Copyright.]

(For use in Dwellings, Stables, Poultry Houses, &c.)

Equipped with Cyphers Fireproof Heater and Standard Adaptable Hover, and bears the Fire Underwriters' "Inspected Brooder" label.



CYPHERS STYLE A OUTDOOR BROODER.

[Copyright.]
(Formerly known as Storm King.)

Two-Apartment, Combination Outdoor Brooder and Colony Roosting Coop. Self-Ventilating and Self-Regulating. Built throughout of seven-eighths inch thick lumber, including the floor. Has double door for convenient cleaning and summer ventilation. Large, single-pane 12in. by 18in. window with substantial frame.

walk of Moorgate Street Station, the "Tube," and the many means of communication that centre in the City. At the spacious warehouse in Old Street, St. Luke's, the large consignments of incubators, brooders, and other appliances are received from New York, and re-distributed to meet the requirements of the European trade; whilst almost the entire export

acquainted. It will, therefore, be fitting to give them the first consideration in this account of what was a most interesting and informative visit.

TRADE SUPPLEMENT

THE NEW BROODER.

The primary and most important principle involved in the construction of this new series of Cyphers indoor and outdoor brooders is that they are fitted with a fireproof heater and an adaptable hover. This apparatus is insurable, and bears the "inspected brooder" label of the Underwriters' Laboratories (inc.) placed thereon under the direction of the National Board of Fire Underwriters in the United States of America; and is made for use in any form of brooder, the lamp or stove being so enclosed and safeguarded that fire therefrom cannot be communicated to combustible

spaced asbestos jacket in the upper. The hover is also of metal, lined with asbestos to prevent excessive radiation; and the whole apparatus is made in five pieces to facilitate crating and easy adjustment. It will be noted that, in contradistinction to the former type, the lamp is outside instead of beneath the brooder; and that the space under the hover is consequently free from obstruction, thus preventing crowding against any stationary object.

The new brooding appliances to which the Cyphers Company have fitted the fireproof heater and hover are three in number, two for outdoor and one for indoor use. The former are built on the colony-house plan, and by the



CYPHERS ADAPTABLE HOVER.

[Copyright.]

Fireproofed, Insurable, Self-Ventilating, and Self-Regulating.

Shows side view of Combined Fireproof Heater and Standard Adaptable Hover, ready for use. Device can be mounted—that is, can be joined together—in less than thirty seconds' time

material outside the heater and pipes. As the name implies, this ingenious device is "adaptable," and may be readily fitted to foster-mothers or brooders of any form of simple construction. It has, moreover, the additional advantage of being fitted with a regulating device in the form of a thermostat similar to that used in the incubators bearing the name of this firm. The heater compartment is made of heavy galvanised iron, double-seamed and riveted throughout. The interior of this compartment is divided into two chambers by a fire-tight partition, the lamp being in the lower and a double heat dome with an air-

removal of the hover may be used for roosting purposes, being provided with a double door and wire mesh protection for night ventilation. Under the new form of construction and fitting the brooder formerly known as "Storm King" becomes the "Style A," whilst the old and well-known "Style A" is renamed as "Style B." The indoor brooder, except for some necessary but slight modification in shape, is practically the same in all respects as the new Style A; but in this case the vast improvement consequent upon the use of a fireproof and insurable heating apparatus is naturally one of very considerable importance.

We were much impressed with the general utility, safety, and simplicity of this new series of brooding devices ; which are at once durable, convenient, and efficient, and appear in all respects to justify the claim of the manufacturers that they are built to do the work required of them.

THE LATEST PATTERN INCUBATORS.

Whilst in the show-rooms we took the opportunity to examine the latest pattern incubators, the general principles and designs of which are so well known that they need no fresh description. There are, however, several minor improvements with which the users of some of the earlier patterns may not be familiar, progress and improvement being so characteristic of the Cyphers manufactures. In the two large machines of the latest pattern, for ex-



THE LATEST TYPE OF CYPHERS INCUBATORS.

[Copyright.]

ample, there is no longer any difficulty in cleaning the interiors ; the nursery drawers and diaphragms being easily removable, thus exposing the whole of the interior of the nursery and hatching chambers. This free accessibility

to all parts is much more important than the uninstructed may imagine, owing to the necessity—in the light of modern scientific knowledge—not only for thorough cleansing but for periodic disinfection. It is now known that many hatching and subsequent failures are due to the neglect of such simple precautions, and



IN THE PACKING DEPARTMENT.

[Copyright]

facilities for reaching interiors of hatching appliances are necessary steps in the right direction. But that by the way. Time did not suffice for us to attempt any exhaustive examination of the show-room wonders of a great firm of up-to-date appliance makers—there still remained the warehouse, more prosaic, perhaps, but none the less indicative of enterprise and the wide ramifications of such a business.

THE WAREHOUSE.

A short "tram" ride sufficed to cover the distance from Finsbury Pavement to Old Street. Upon entering the warehouse the first object of interest that drew instant attention was a crated incubator labelled "Alexandria"! We had always been taught that, if they would, the Egyptians could teach us more than we know about artificial incubation. It remained for us to learn—in Old Street, St. Luke's—that

TRADE SUPPLEMENT

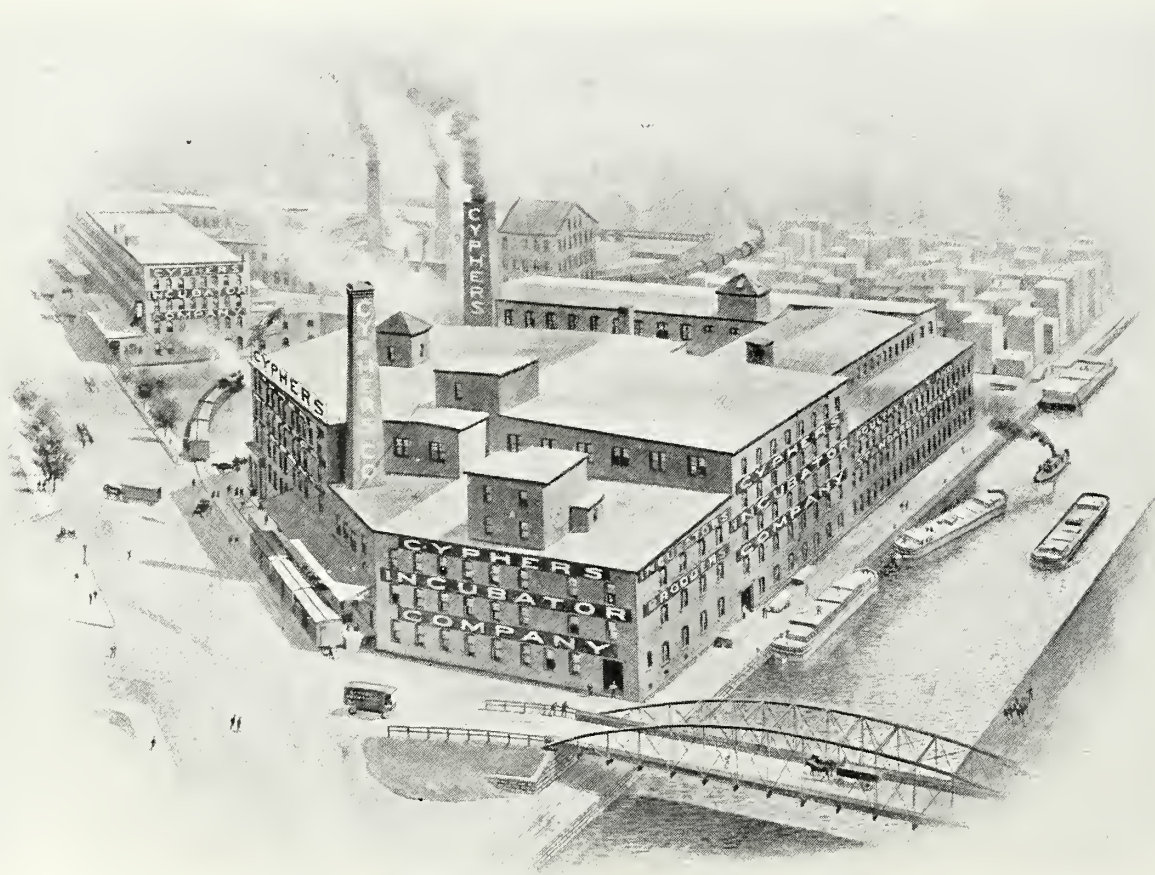
our supposed superiors are among those who use the modern appliance, as invented and manufactured in the New World! Our faith in the traditional secrets of the Egyptian hatcheries received a rude shock, and our admiration for the inventors of "new things under the sun" increased.

THE FOOD STORE.

Not only is the Old Street warehouse the distributing centre of crated brooding and incubating appliances of all descriptions for the supply of Great Britain and Ireland as well as near at hand and far distant parts of Europe, but the premises include a great store of imported poultry foods. In this latter department of their restless enterprise the Cyphers Company employ expert mixers and blenders, who have gathered the best knowledge regarding the value of foodstuffs and the science of feeding, and have applied it to the several requirements of the poultry-keeper and producer. It will be seen, therefore, that the firm has organised its European headquarters in London with a view to the complete equipment of the poultryman in every department of his activity, but the full measure of the readiness to meet the most diverse needs can scarcely be more than generally indicated within the limited scope of this account of a short visit of inspection.

THE VALUE OF ORGANISATION.

Perhaps the fact that most particularly impressed us in this necessarily brief survey of the work of the chief branch house of the Cyphers Company was the extraordinary completeness of the organised facilities for dealing with a large export trade with the least delay and the minimum increase in the supplementary cost of production. The various poultry-producing countries have been systematically studied, their separate requirements as far as possible met, and the best transportation rates obtained by consigning in bulk to central agents and distributing depots. As an indication of the importance of the London house as the European centre, it is only necessary to mention that during the last few years, under yearly contracts with the steamship lines, the output from New York to London has been so constant that we are informed that it has been rare for a steamship to sail without a consignment. Such a record is much more than an indication of the growth and progress of a great appliance business, inasmuch as it is a remarkable testimony to the growth of the poultry industry—in which connection it must be remembered that the reference is not only to the United Kingdom, but to Europe in general, of which the London house of the Cyphers Company is the Headquarters and Bureau of Information.



GENERAL VIEW OF CYPHERS INCUBATOR WORKS.

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COMPILED BY EDWARD BROWN, F.L.S.

Compiler's Note.—With the object of securing as complete a list as possible of Poultry Books, it is proposed to give from time to time particulars as to such as are known. My own library embraces nearly 350 volumes on this subject, but there must be many not contained therein. I beg respectfully to request the kindly co-operation of owners of books not named, with a view to making the list exhaustive. In sending particulars I request that the following be stated: (1) Full title, and sub-title, if any; (2) Author's complete name, with any information respecting the writer; (3) Place of publication and name of publisher; (4) Date of publication, if given; (5) Number of edition; (6) Number of pages and size of book; (7) If illustrated; and (8) Whether in paper or cloth. Acknowledgment will be made of source of information. The books marked with an asterisk I have not been able to verify, and fuller details will be welcome both as to books and authors.

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(To be continued.)

MARKETS AND MARKETING.

Week Ending August 20.

London trade was dull owing to the holiday season. English poultry was plentiful, but not wanted to the same extent as usual. There was an excellent demand at seaside resorts, and considerable buying was done on the London markets to meet country demand. Large birds were in demand by the hotel and boarding-house keepers. The demand for English new-laid eggs in town was slack, and prices had a tendency to weaken somewhat. Foreign eggs remained unaltered; demand for the better quality showed a slight improvement.

The Liverpool market was depressed, and Irish eggs dropped in value, and yet sales were slow. They also dropped from 3d. to 6d. per 120 at Cardiff. Much the same conditions ruled at Birmingham, but trade was a little better at Manchester. At Newcastle-on-Tyne, Glasgow, Leith, and Hull demand was weak for all classes of eggs.

The number of foreign eggs received during the week amounted to 455,420 great hundreds, the value of poultry to £1,149, and of game to £385.

Week Ending August 27.

Trade in English poultry was much the same as last week. Game became more plentiful and moderate in price. It sold freely; the public was glad of the change. Poultry arrived in fine condition owing to the cool weather. The demand for English new-laid eggs improved, and the general average of prices was inclined to advance. Owing to large stocks being on hand, the foreign egg trade was depressed. Large quantities of Danish eggs had been kept back by the packers in Denmark. This has occurred several times this year, to the detriment of Denmark's good reputation.

On the Liverpool markets there was a general advance in the values of Irish eggs. A better tone also prevailed at Manchester for all provisions, also at Birmingham and Newcastle-on-Tyne, but at Glasgow, Greenock, Leith, and Hull trade was dull.

The arrivals of foreign eggs during the week amounted to 344,900 great hundreds, of poultry the value was £1,429, and of game £550.

Week Ending September 3.

The trade for English poultry was much the same as during the previous week, buyers being unable to purchase owing to dullness of demand. The trade for English eggs remained about the same, with an inclination to weaken. The cheaper class of foreign eggs were in fair demand, but better quality goods were inclined to lag. Prices on the Continent advanced and made trade unprofitable. At the commencement of the week the Liverpool market was improved in tone, but declined towards the end. At Manchester the tone was improved;

also demand was brisker at Birmingham, Newcastle-on-Tyne, Glasgow, Leith, and Hull.

The arrivals of foreign eggs during the week amounted to 299,139 great hundreds, the value of poultry to £1,960, and of game to £653.

Week Ending September 10.

Supplies were moderate, but there was a good demand for poultry of superior quality. Prices changed very slightly, and there was little worthy of remark. Goslings sold readily at from 6s. to 7s. each. Ducklings were very plentiful, and sold at from 2s. 3d. to 3s. each. There was little alteration in the egg trade, and prices were practically the same as previous week. The feature of the week's markets was the remarkable cheapness of English game. Grouse were selling at 4s. to 5s. per brace, which is extremely low for so early in the season.

Week Ending September 17.

With the completion of the holiday season the demand for all classes of produce on the London and other first-class markets increased. Prices remained practically the same, however, although in a few directions there was a hardening in values. New-laid eggs rose slightly, although supplies were rather freer.

THE NEW-LAID EGG OF "FORTY YEARS AGO";

OR, THE FRESH EGG.

WHAT forty years ago was called a French new-laid egg was a wondrous and (very often) a fearful thing. In those dark days in the history of our importations of foreign eggs we depended almost entirely upon France for supplies; in fact, she was about the only foreign country from which we used to receive eggs. She was aware of this, and her farmers were fully alive to the fact that they practically held the monopoly of the English market.

The wit and cunning of the French peasants of those dim days was as keen then as it is to-day; and they took every advantage of the situation. When the market values had an upward tendency and the French farmer found his hens laying well, he would gleefully rub his hands and say, "I will not sell these eggs this week, I will hold them over for another week, and take them to market when they will make a lot of money. I will only take what I have on hand from last week to sell now." Off to the market he went, and to the buyers he would say, "There! I have some lovely fresh eggs, fresh from my farm to-day, perfectly new-laid." The bargain was struck. The buyer then

TABLE OF PRICES REALISED FOR HOME, COLONIAL, AND FOREIGN POULTRY, GAME, AND EGGS FOR THE FOUR WEEKS ENDING SEPTEMBER 17, 1910.

FOREIGN POULTRY—LONDON MARKETS.									
PRICES REALISED DURING THE MONTH.									
COUNTRIES OF ORIGIN.		Chickens. Each.	Ducks, Each.	Ducklings, Each.	Geese, Per lb.	Turkeys, Per lb.			
Russia		English poultry and game being plentiful, there is no demand for foreign poultry.							
Belgium									
France									
United States of America									
Austria									
Canada									
Australia									
FOREIGN GAME. LONDON MARKETS.		Price Each During Month.	COUNTRIES OF ORIGIN.			DECLARED VALUES.			
Capercalzie		0/10 to 1/2	Russia			Game.	Poultry.		
Black Game.....		0/9 " 1/0	Austria-Hungary			£85	£740		
Ptarmigan		1/6 " 1/9	France			—	—		
Partridges.....		0/9 " 1/3	United States of America			8	3,065		
Quail.....		0/8 " 1/3	Other Countries			1,422	841		
Bordeaux Pigeons		1/0 " 2/6	Totals			£1,515	3,434		
Hares		0/7 " 0/8½					£8,080		
Rabbits		—							
Snipe		—							
IMPORTS OF EGGS.									
MONTH ENDING AUGUST 31, 1910.									
DESCRIPTION.		1st Week.	2nd Week.	3rd Week.	4th Week.	COUNTRIES OF ORIGIN.			
		Per 120.	Per 120.	Per 120.	Per 120.	Quantities in Gt. Hund.			
Irish Eggs		9/2 to 9/6	9/4 to 9/6	9/6 to 10/3	9/6 to 10/3	Declared Values.			
DESCRIPTION.		1st Week.	2nd Week.	3rd Week.	4th Week.	COUNTRIES OF ORIGIN.			
		Per 120.	Per 120.	Per 120.	Per 120.	Quantities in Gt. Hund.			
French ...		8/6 to 10/0	8/9 to 10/3	8/9 to 10/3	8/9 " 10/6	Russia			
Danish ...		8/3 " 10/6	8/9 " 10/6	8/9 " 10/6	8/9 " 10/9	Denmark			
Italian ...		9/0 " 10/3	9/3 " 10/3	9/6 " 10/3	8/9 " 10/3	Germany			
Austrian...		6/3 " 8/3	6/6 " 8/6	6/6 " 8/3	6/6 " 8/6	Italy			
Russian ...		—	—	—	—	France			
Austrian.		—	—	—	—	Austria-Hungary			
Canadian..		—	—	—	—	Other Countries			
		—	—	—	—	Totals.....			
		—	—	—	—	1,819,091			
		—	—	—	—	£663,303			

said to himself, "Now, here's a chance to make some money; I will not sell these now, they're perfectly fresh from the farm, they'll keep a week well, and bring me good money." The week passed by, and the buyer offered them to the shipper. The shipper made his bargain, and then said to himself, "Now here's a chance to make some money, they're perfectly fresh from the buyer, they'll keep a week well, and bring me good money." The week passed by, and the shipper shipped them to the English merchant, and they were probably delayed a week by contrary winds. The merchant struck his bargain and said to himself, "Now, here's a chance," &c., and so on, to the retailer, who, after holding them for a week, offered them to the consumer as being perfectly fresh from the merchant. The consumer was delighted at the prospect of obtaining some eggs fresh from the merchant, so bought sufficient to last him a week and went his way rejoicing.

Reader, this is not intended as a parody either on "The Old Woman who Picked up the Crooked Sixpence" or "The House that Jack Built." It is simply the life history of a foreign egg of forty years ago, and probably (I won't vouch for it) the origin of that mystifying term "The Fresh Egg." Forty years ago there were twenty merchants at Gravellines who sent eggs to this country by sailing ships and landed them in the Thames. To-day there is only one, and he sends by Express Goods Service over land and over the sea by ships driven by turbine engines.

POULTRY AND EGGS AS TRIBUTE.

IN olden times it was very common in all countries for rent to be paid both in money and kind, and in respect to the last-named poultry has a prominent place. Mention of this is made in Mr. Edward Brown's Belgian Report, in which it is stated that during the eighth century "all millers on the banks of streams were compelled to keep ducks, and farmers to keep poultry, as they had to pay tribute in fowls, ducks, and carp to the land or over lord." But it was equally the case in Britain. The *South Wales Daily News* has recently given some interesting instances relating to the Principality, quoting from old estate books:

The first agreement relates to Hafod Fach in the parish of Llanbadarn Trefeglwys, which is leased for eleven years or during the Vicariate at a rental of twelve pounds per annum, "and to pay a hen and twelve eggs at Shrovetide."

In another case the tenant is to pay seventeen pounds a year and "to give two geese at Michaelmas, or to come to mow or reap three days at harvest."

Again, another farmer pays twenty-eight pounds ten shillings rent. "The annual duties are the following, viz. :—three days at the corn harvest, and six chickens in the month of May."

The Tenant of Hafod Fach was changed after a tenancy lasting six years, 1806—1812. The new tenant agreed to pay a pound more by way of rent, thirteen pounds, but the landlord was to allow one pound yearly towards the repair of the hedges, the tenant to lay out a similar sum for four years. The duty was to be six chickens in May, instead of the hen and twelve eggs of the former tenancy.

Another property is charged with a duty of six chickens in May and to mow three days at hay harvest

at one shilling per day. The examples just quoted all relate to small farms. The same duties were attached to smaller properties. Evan Jenkins is to have a cot and the small house now on the side of the garden hedge of Evan Evans and the garden behind his house for £1 10s. a year; he is to "serve three days harvest, and give a hen and ten eggs at Shrovetide." The "cot" was possibly in this instance the place for the pig, though the term is also used for a dwelling, as, for instance, "Rented a cot at Drefach, October, 1814, to Jack John Griffiths' sister for £1 6s. yearly, without duty, to put the cot in repair, and for her to keep it in thatch, there is one glass window and a wainscot of boards one side." In this case it will be observed the payment of duty was omitted from the rent. A few years later this holding was let to Thomas Morgan for £1 5s. yearly, "three days at corn harvest and a day at hay harvest every year."

ANSWERS TO CORRESPONDENTS.

The Editor will be glad to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered if possible in the issue following their receipt. The desire is to help those who are in any difficulty regarding the management of their poultry, and accordingly no charge for answering such Queries is made. Unless stated otherwise, Queries are answered by

F. W. PARTON,

Lecturer in Aviculture, The University, Leeds.

The Scotch Grey.

I have been offered a pen of Scotch Greys by a friend at a very low price, and I should like to know whether this is a good breed. I know nothing about them, and shall be grateful for any information. Are they good layers, hardy, and will they stand confinement?—H. M. (Dumfries, N.B.).

This is an excellent breed, and will answer your purpose admirably. Scots Greys are very good layers, of a large white-shelled egg, and, considering that they are of the non-sitting type, are very good indeed in table qualities. They will thrive exceedingly well in confinement, and are extremely hardy.

Bent Breastbones.

Nearly all my chickens are coming with crooked breastbones, and the poulterer to whom I send my birds says he cannot allow me a good price for them. I shall be very grateful if you will please tell me what makes the breastbones bent, and how should I overcome it?—F. J. M. (Bedford).

Faulty breastbones are usually the outcome of allowing chickens to roost when too young, or it may be caused by sleeping on a hard wooden floor upon which there is not a sufficient depth of soft bedding. A want of bone-forming material in their food is also frequently a cause of this deformity. Birds with this malformation should not be bred from, since in all probability their progeny will inherit the same weakness. How to prevent bent breastbones when due to any of the causes here enumerated is, of course, obvious.

A Whitewash Mixture.

Can you give me a good recipe for a whitewash for my poultry-houses? I find that lime and water is not very effectual, as it peels off so quickly and does not seem to kill all the insects.—S. H. (Hartley).

A very good limewash for your poultry-houses is as follows: Add to one bucketful of limewash half a pound of soft soap and half a pint of paraffin oil. First mix the soap and oil together, until the soft soap has taken up all the oil. Then mix it with hot limewash, when the soft soap and paraffin oil will readily dissolve. The soft soap will make the wash adhere to the walls, and will fill up all crevices that would harbour vermin, and the paraffin oil will have the effect of destroying them.

Winter Egg-Production.

Will you please tell me in the next issue of the ILLUSTRATED POULTRY RECORD which is the best breed for winter egg-laying, as I want to buy some young chickens now, keeping them till the winter? Is the Black Langshan a good breed to keep, or is there a better one for my purpose?—T. C. S. T. (Rochester).

The most suitable breeds for winter egg-production are Wyandottes, Plymouth Rocks, Rhode Island Reds, and Orpingtons. These should all have preference over the Langshan, since this breed is rather delicate, and only suitable for a well-sheltered position, and in a warm climate. In addition to this they have somewhat deteriorated as a utility fowl during the last few years. You state that it is your intention to purchase chickens. You must obtain well-grown pullets, February or March hatched, if you intend them for laying during the approaching winter.

Artificial Incubation.

Will you please answer the following in the next issue of the ILLUSTRATED POULTRY RECORD: 1. Which are the best capsules for incubators, round or square? Can I make them myself? 2. Should I get more sensitive results by using two together, instead of the usual one? 3. What are the contents of the capsules? 4. Can I recharge them myself, to save buying a new one each time they will not act?—H. J. H. (London).

1. Round capsules are generally considered preferable. It is possible to make them yourself, although it is not advisable to do so, since they may be purchased very cheaply. 2. If your incubator is of the ordinary pattern, one capsule only is necessary. 3. The contents of the capsule are generally supposed to be a combination of mercury and alcohol, but this is naturally a trade secret. 4. It is inadvisable to attempt to recharge the capsules yourself. One capsule, with care, will last for several years. Regulate the machine, as far as possible, by the size of the lamp flame, thus preventing a too severe tax on the capsule.

The Fertilising Power of Males.

Will you kindly tell me whether the influence of the male will be sufficient for several eggs or only one?—C. C. C. (T. Jour d' El-Rey, Brazil).

The first three or four eggs laid after the removal of the male bird from the hens may be relied upon to be fertile. After this number, if the eggs are fertile, which is doubtful, the germs are very weak. It largely depends upon the vigour of the male as to the length of time after his removal that the eggs are fertile.

The Hen v. The Incubator.

I am just starting poultry-keeping, and I should like to know whether it is necessary for me to have

an incubator, or can I do my hatching by hens? I am away all day, and there is no one at home who is capable of looking after an incubator.—R. B. (Cookham).

It is most decidedly not necessary for you to have an incubator. An incubator requires care and attention; this it could not have under the circumstances you mention—namely, your absence from home all day. Hens will answer your purpose; certainly they also require attention, but not the same amount of supervision as an incubator.

Short Replies.

F. J. N. R. (Limerick).—1894.

R. S. P. (Bolton).—Liver disease.

W. R. M. (Ross).—The Aylesbury.

W. C. B. (Aysgarth).—The Plymouth Rock.

P. C. (Rotherham).—We cannot entertain your offer.

H. M. R. (Leith).—1. From 19 to 21 days. 2. 30 days.

E. J. M. (Kilmarnock).—This is the wrong time of year.

M. T. (Sudbury).—1. Yes. 2. Yes. 3. We do not know.

M. T. (Howth?).—We think so, but we cannot say positively.

CURIOUS (Potter's Bar).—The details you give are much too meagre.

T. B. (Bray).—We would refer you to our advertisement columns.

R. M. (Preston).—We have forwarded the letter as requested, in spite of the fact that you omitted to enclose a stamp.

CLUBS AND SOCIETIES.

THE POULTRY CLUB.

THE monthly meeting of the Council was held on Friday, September 9, at 2 p.m., at the London Chamber of Commerce, Oxford Court, Cannon Street, London, E.C., when there were present: Messrs. L. C. Verrey (chair), W. Clarke, W. Bibby, W. M. Bell, J. Horn, W. A. Jukes, W. W. Broomhead, F. J. Broomhead, Richard Watson, P. H. Bayliss, J. Carlton Hunting, T. Threlford, and G. Tyrwhitt-Drake (hon. secretary and treasurer).

The following societies were duly associated: Recommended by the Norfolk Branch—Norwich and Norfolk with Suffolk Poultry, Pigeon, and Rabbit Society. Sec., Ben T. Mallett, 46, Hotblack Road, Norwich. Recommended by South Wales Branch—Cowbridge Horticultural, Poultry and Pigeon Society. Hon. Sec., E. W. Davies, Cowbridge, Glamorgan. Folkestone and District Fanciers' Society. Hon. Sec., J. W. Gambrill, 56, Cheriton Road, Folkestone. Stratford and East London Fanciers' Society. Hon. Sec., W. Maxey, 16, James Place, Poplar, E.

The following shows were announced to be held under club rules, and specials were accordingly allotted: York, Cowbridge, Mumbles, Marnhull, Norwich, Hastings, Hassocks, Brown Leghorn Club, Caerau, Faverolles Club, Gillingham, Campine Club, Liskeard.

A letter from the Stoke Newington Fanciers' Association, asking if a person buying day-old chicks could be considered the breeder of the birds, was answered in the negative.

Mr. W. W. Broomhead, hon. secretary of the Rules

Sub-Committee, brought forward the suggestions of the sub-committee with regard to the necessary alterations to be made in the rules, to enable the hon. treasurer of the club to collect all subscriptions for the future; and also slight alterations in one or two other rules. After considerable discussion these alterations were all approved of by the Council, and it was decided that they be placed on the agenda for the annual general meeting, as being recommended by the Council.

Mr. G. Tyrwhitt-Drake, on behalf of the Election Sub-Committee, asked the Council whether at the forthcoming ballot for officers of the club members residing in any part of the United Kingdom, &c., were entitled to vote for officers representing all sections. He pointed out that Club Rule 15 states "that the officers shall be elected by the members"; and further, that nominations for officers had been received from members in all parts for all sections. It was decided by the Council that all members of the club are entitled to vote for officers in all sections; and instructions on the voting papers with regard to this point were approved of by the Council.

It was decided that the next meeting of the Council be held on Friday, October 7, at 2 p.m., instead of the 14th prox.; and that an Extraordinary Council meeting be called at the Poultry Club Room of the Dairy Show for Tuesday, October 4, at 3.30, to receive the report of the Election Sub-Committee.

FREDERICK J. BROOMHEAD,

Vice-President.

G. TYRWHITT-DRAKE,

Hon. Secretary and Treasurer.

Cob Tree, Sandling, Maidstone.

THE UTILITY POULTRY CLUB COMMITTEE.

THIRTY-FIVE persons were elected members of the club.

PRIZES AND SPECIALS.—On the proposal of the hon. secretary the following special prizes were granted: Hayward's Heath District Fanciers' Association Show, 10s., eggs. Mid-Somerset Agricultural Society's Show, £1, plucking, marketing, and trussing competitions. Sunbury-on-Thames and District Fanciers' Society's Show, 10s., table-poultry. Shaftesbury Farmers' Club and Horse Show, £1, table-poultry.

THE NORTHERN UTILITY POULTRY SOCIETY'S FOUR MONTHS' LAYING COMPETITION 1909-10.—The hon. secretary reported that a copy of the accounts for this competition had been received, and seemed very satisfactory. The cost of management was met out of the sale of eggs, and the very full report published at the end of the competition was paid for by the advertisements. It was agreed to pay the deficit of £1 18s. 3d. on the competition which the club had been asked to pay under its guarantee.

THE NORTHERN SOCIETY'S FOUR MONTHS' LAYING COMPETITION, 1910-11.—It was resolved (a) "That the club guarantee the Northern Utility Poultry Society in connection with their forthcoming Laying Competition against loss to the extent of £5, subject to the accounts being submitted and approved"; and (b) "That a silver medal of the club be granted for the winner, should the standard be sufficiently good."

FOUR MONTHS' LAYING COMPETITIONS.—Various details were arranged in connection with these competitions, and it was resolved "That Miss Brown, of the Lancashire County Council College, should be a member of the sub-committee with Messrs. Pedley and Longbottom to visit and inspect the Northern Competition on behalf of the club, and that Messrs. G. A. Palmer, N. B. Bushel, and A. Bird be asked

to act on a sub-committee to visit and inspect the Southern Competition on behalf of the club."

COMMITTEE MEETING.—A committee meeting will be held at the Dairy Show on Thursday, October 6, at twelve o'clock. The annual meeting will take place on the same date at three o'clock in the Club Room of the Agricultural Hall.

L. W. H. LAMAISSON,

Hon. Secretary.

Merstham, Surrey, September 10, 1910.

BLACK WYANDOTTE CLUB.

To the Editor of the ILLUSTRATED POULTRY RECORD.

SIR,—I shall be greatly obliged if you will allow me to make use of your columns to announce that, by the unanimous wish of the Committee, Mr. Hunter Gaudy becomes President of the Black Wyandotte Club in place of the late Mr. Porritt; Mr. Buckland becomes Vice-President in Mr. Gaudy's place, and Mr. J. T. Knowles has been elected to fill the vacancy on the Committee.

I shall be glad if you will also let me add that the Club Show this year will be held at York on December 13, 14, and 15, with Mr. Kirkman as judge. In addition to the ordinary Novice Classes, there will also be Junior Novice Classes for those who have never won with Wyandottes at the time of entry a first prize at any open show or a money-prize in the Open Classes at the International, Dairy, or Birmingham, or in the Open or Novice Classes at the Club Show. There will be eight challenge and other cups competed for, including one for new members. Full particulars of these will be found in the Club "Year-Book," copies of which I shall be pleased to send to anyone for three stamps. Forthcoming shows which the Club is supporting with extra prizes are Morecambe, Presteign, Altrincham, Hayward's Heath, Alderley Edge, Dunmow, Penistone, Sunbury-on-Thames, and Annan, N.B.

Also the Club is contributing to increase the prize-money at the Dairy, and Mr. Ellett is offering a cup there to be won outright.—Yours, &c.,

M. S. BURY, Hon. Secretary.

Lomber Hey, High Lane, Cheshire.

WHITE WYANDOTTE CLUB.

THE Club Show Judge Election resulted as follows: J. Stephen Hicks, 36 votes (elected); R. Anthony, 12 votes (not elected); W. Moore, 10 votes (not elected); J. Wharton, 6 votes (not elected); two other gentlemen received less votes. Seventy-two papers were returned; six were cancelled owing to being unsigned or too late. Mr. F. J. Broomhead kindly acted as scrutineer.

J. S. HICKS, Hon. Secretary.

TRADE NOTICES.

Bolton Model Poultry Farm.

The catalogue of this establishment—a handsome production printed on good paper, illustrated with half-tone blocks, and tastefully bound—reveals that the show successes, which began virtually with the acquisition of the farm by Messrs. G. M. and W. W. Dobson in 1908, have continued well into the present year. Buff Plymouth Rocks, Partridge Wyandottes, Blue Leghorns, Buff, White, and Black Orpingtons, and Black and White Wyandottes—these are the breeds with which a favourable forecast as to the firm's future, made by an eminent authority in 1908, has been so strikingly fulfilled. Every winner, moreover, has been home bred. This, theoretically, is the case with the majority of successful poultry-breeders; but, in point of actual fact, those who can truthfully claim never to have exhibited a bought bird are a good deal fewer than that majority, and the point is therefore one to be emphasised in the

case of Messrs. Dobson. The Bolton Farm, situated in Lostock, Lancashire, originally consisted of eight acres, and was purchased by Mr. W. W. Dobson in 1908, Mr. G. M. Dobson being at that time concerned with a model poultry farm of his own at Cirencester. After the lapse of a few months, the Bolton Farm was found to be too small for the stock it was required to accommodate, and an adjacent farm of fourteen acres being for sale, Messrs. W. W. and G. M. Dobson jointly purchased it. This latter is devoted to utility purposes, and includes a new farmhouse for the accommodation of poultry students. According to the authority referred to above, the plant is excellently planned and equipped, with partially open-fronted houses, capacious breeding-pens and other features that justify its title of "Model." At the same time—since there exists a certain prejudice in the mind of the practical breeder against ultra-perfection in details of plant—it is important to note that no attempt has been made to secure appearance at the expense of hygienic conditions. The resident-manager at the Bolton Farm is Mr. William Bibby, whose wide experience in breeding and rearing poultry is well known, and who has devised and patented some excellent poultry foods which are used on the establishment.

Poultry Ailments.

A useful little booklet dealing with the more common diseases affecting poultry has been issued by Mr. W. Tamlin, of 40, St. Margaret's, Twickenham, which will be sent free to those who write for it. The book comprises a list of diseases to which fowls are most subject, and as these are arranged in alphabetical order they can be referred to very quickly. We recommend our readers to write for a copy, since we are sure they will find it of value to them in the management of their poultry.

Messrs. W. Cook and Sons' Exports.

Messrs. William Cook and Sons, the originators of the Orpingtons, have during the past few weeks shipped a record number of birds to many parts of the world from their only address, Orpington House, St. Mary Cray, Kent, including the following: To the Falkland Islands, per ss. Orissa, a pen each of American Mammoth Bronze Turkeys and Indian Game; to Santos, per ss. Aragon, two pens of American Bronze turkeys; per ss. Leicestershire, to Colombo, two pens of White Leghorn 1910 birds from their prize strains; to Rhode Island, U.S.A., a pen of White Orpingtons; to Trieste, a pen each of Aylesbury ducks, Embden geese, and White Orpingtons, per ss. Belgravian; per ss. Evesham, to Buenos Aires, three pens of Barred Rocks and two pens of Dark Dorkings; per ss. Irvutski, to Natalino, two pens each of White and Buff Orpingtons and one pen of Bronze turkeys; per ss. Mendi, to Sierra Leone, sixty Indian Game and White Orpington cockerels; per ss. Otaki, to Canterbury, N.Z., a pair of 1910 Buff Orpingtons; to the Austrian Government Farm, a consignment of first-class Buff Orpington cockerels; per ss. Nerissa, to Rio Grande do Sul, a consignment of Buff Orpington pullets; to Holthansen, Germany, a pen of 1910 Jubilee Orpingtons; per ss. City of Oxford, to Smyrna, a pen of White Wyandottes; per ss. Caspian, to St. Helena, two pens each of White Leghorns, Black Minorcas, White Wyandottes, and Aylesbury drakes; per ss. Tintoretto, to Rio de Janeiro, three pens of Aylesbury ducks; per Continental Express, to Roubaix, a pen each of Buff Orpingtons and Barred Rocks; per ss. Walmer Castle, to Capetown, two pens each of Houdans, Buff Orpingtons, White Wyandottes, Black Leghorns, and Aylesbury drakes; to Yokohama, per ss. Kawachi Maru, two pens each of Black Orpingtons and Buff Orpingtons; to Warsaw, a pen each of Aylesbury ducks and Buff Orpingtons; per ss. Orchis, to Smyrna, a pen of Buff Orpingtons; per ss. City of Glasgow, to Bombay, a pen each of Houdans and Buff Orpingtons; per ss. Tarquah, to Calabar, a pen of Buff Orpingtons; per

ss. Staffordshire, to Colombo, two pens of Minorcas and one of Buff Orpingtons; per ss. Terence, to Rio de Janeiro, a pen each of White Leghorns, White Orpingtons, White Wyandottes, Buff Orpington ducks, Barred Rocks, Black Orpingtons and Buff Orpingtons; and per ss. Metaba, to New York, over 150 Black, White, and Buff Orpingtons.

Interesting News for Dog-Lovers.

To commemorate the Coronation of King George V., which takes place next year, Messrs. Spratt's Patent, Limited, the well-known manufacturers of foods for dogs, poultry, cage-birds, and other domestic pets, have decided to offer three gold cups, valued 100 guineas, 50 guineas, and 25 guineas respectively, and three silver-gilt cups, valued 15 guineas, 10 guineas, and 5 guineas respectively, for the six best puppies regularly fed on Spratt's food. Full particulars of this interesting competition can be obtained on application to Spratt's Show Department, 24-25 Fenchurch Street, London, E.C.

Mr. Tamlin's Exports.

During August Mr. William Tamlin, of St. Margaret's, Twickenham, sent the following appliances abroad: Six 30 incubators, ten 100 incubators, ten 60 incubators, to M. A. Masson, France; one 100 incubator, one 100 foster-mother, to George Henroz, Belgium; two 100 incubators, two 100 foster-mothers, to Mombassa, order of Army and Navy Stores, per ss. Charente; three 60 incubators, three 100 incubators, to Algoa Bay, order of Julian Stephens, Ltd.; twelve 30 incubators, ten 60 incubators, ten 100 incubators, to J. F. Marshall, Transvaal, per ss. Inanda; one 60 incubator, one 60 foster-mother, to Mrs. Goodfellow, Ceylon, per ss. Nyanza; one 60 incubator, to Mr. K. Ebbels, Mauritius; one 60 incubator, one 60 foster-mother, to Tasmania, order of Terry and Co.; and one 100 incubator, to T. Nightingale, Colombo, per ss. Nyanza.

Messrs. Spratt's Patent.

Messrs. Spratt's Stand at the forthcoming Dairy Show is situated in its usual position in the North Gallery, and here one can inspect the many and varied specialities for which this firm is so famous. Messrs. Spratts have been in existence for over fifty years, during which time their experts have given much consideration to all matters appertaining to the rearing and housing of poultry. Their numerous staff includes a qualified veterinary surgeon and several poultry experts, the services of whom are placed at the disposal of the public free of charge. One of the reasons for the success that this firm has achieved is because Messrs. Spratts will not allow their name to be connected with any food that does not comprise the best quality materials.

Messrs. Spratts have gained many honours for the superior excellence of their manufactures, and our readers will, no doubt, be pleased to hear that this enterprising firm were awarded the Grand Prix at both the Japan-British and the Brussels Exhibitions.

Mr. Norman Whitworth.

Mr. Norman Whitworth, of the Normanhurst Farm, Northallerton, whose birds make a fine show, has exported a £5 Black Orpington to Germany, and to a well-known English fancier has sold a pen for £45.

A Book for Gamekeepers.

Messrs. Foulis have just issued the seventh and revised edition of "The Keeper's Book," by Mr. P. Jeffrey Mackie. This work, which is described as a guide to the duties of a gamekeeper, has long been recognised as a standard work on the subject, and the new edition just issued contains fresh matter of a very interesting nature. It must not be imagined that this work is suitable for perusal by gamekeepers only; the mine of information which it contains on country house sport makes it a most valuable volume for the bookshelves of every country sportsman. The present issue contains a



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It has always been our belief to maintain the top position as Manufacturers of Poultry Appliances in the market—to give better value for money than any other of our Competitors; so it has ever been our fixed policy to manufacture and sell the Highest Class Appliances at prices meriting the Poultry-Keeper's consideration and patronage. This note of individuality that we have so consistently maintained is just one reason of the ever-growing popularity of



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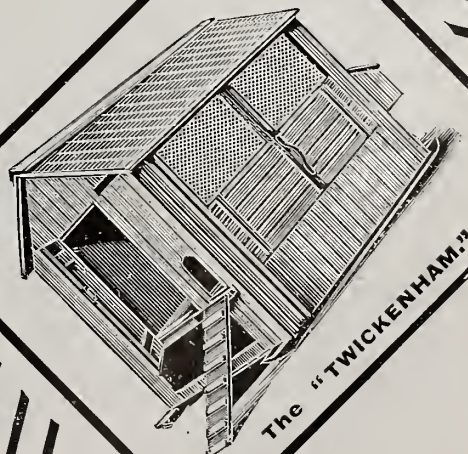
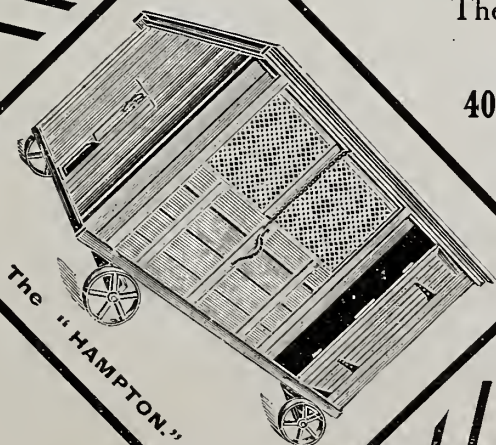
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fascinating article on deep-sea fishing by Mr. F. G. Aflalo, and Mr. Henry Lamond contributes an instructive article on salmon hatching. Whether a man requires information regarding partridges, rabbits, pheasants, wild ducks, keepers, farmers, poachers, dogs, moors, waters, the diseases to which various kinds of game are subject, the vermin which has to be provided against, or the law affecting game and fishing, he will find it all in this handy volume. The book is well illustrated, many of the plates being new. Mr. P. Jeffrey Mackie, the author, is well known as an authority on country house sport, especially in Scotland, and is, of course, also famous as the distiller of White Horse Whisky.

SLUG-DESTROYING.

MR. NEIL S. McMURTRIE, of Highfields, Nether-ton, Wishaw, N.B., writes that he has been very successful in destroying slugs in his garden by watering the plots with water in which Vaporite had been placed. He says: "I mixed one small handful of Vaporite in two gallons of water, stirring it well occasionally to prevent the powder from sinking to the bottom of the can. This I carefully watered round the margin (unfortunately a wooden one) of one of my plots. The effect was really marvellous, for on making an examination on the following morning I discovered innumerable slugs, worms, grubs, and not a single one of them alive. Now these pests give me little or no trouble, and when I see anything like the appearance of one I give it a dose of my infallible cure. A second application is seldom required, and in not one instance have I found a plant damaged as a result of the operation." Vaporite, which is a non-poisonous grey powder, is manufactured by the Vaporite-Strawson Co., Ltd., Spencer House, South Place, E.C.

CROWN PERFUMERY.

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